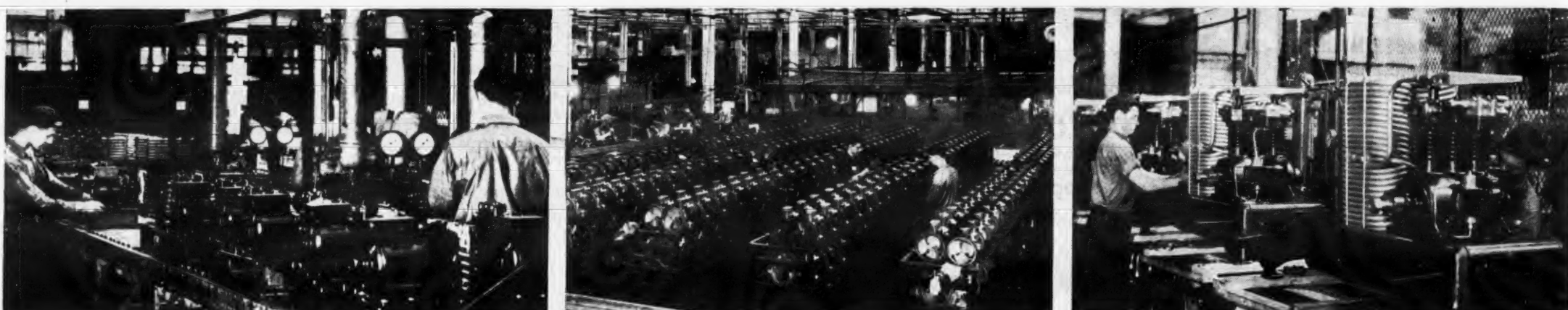


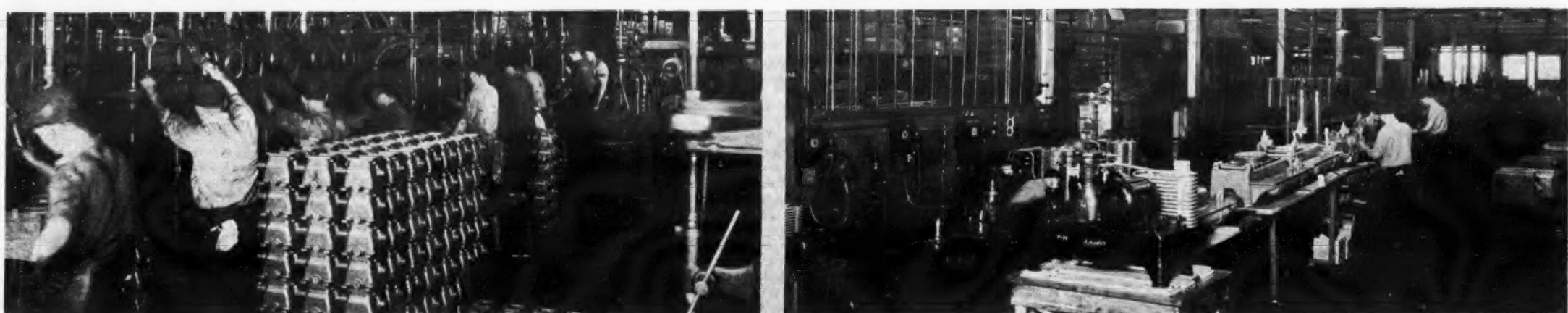
Precision Workmanship, Advanced Assembly Methods Mark Universal Cooler Plant Operations



(1) Receiving dock where the cabinets are received. Front of the crate is removed and cabinets are inspected for any defects in finish before the units are installed. (2) Cabinet and unit assembly line. After the evaporator and condensing unit are assembled in the cabinet, a vacuum is drawn on the complete unit for at least three minutes to free the system of any air or foreign gases, and the complete assembly is inspected before going to the test lines. (3) The final assembly line where the shelves, baffles, and cabinet are inspected for possible defects.



(1) Unit assembly being charged with oil after being removed from the ovens where it is baked for three hours at 250° F. while under 29 inches of vacuum. (2) Compressor assembly department in the background, in a glass-enclosed room where the temperature and humidity are held constant through the day to make possible a more accurate assembly of the parts. After this the compressors are placed upon run-in jacks and run for 24 hours under no-load for wearing in bearings and cylinder walls. (3) Commercial unit assembly line.



(1) View of a straight-line production operation in Universal Cooler Corp. factory, showing workmen engaged in progressive machining operations on crankcases for household refrigeration machines. (2) Assembly of commercial condensing units showing how units move along on roller conveyors to points of the various assembly operations.



(1) Commercial unit test racks. After the units have been thoroughly baked and dried and charged with oil and refrigerant, they are placed in these racks and operated under normal conditions for a minimum of 10 hours, after which they are checked for noise, discharge valve leaks, wattage, etc. (2) Crating of commercial condensing units is done on the conveyor.



(1) Lapping of the intake valve on the piston, and selective assembly of the wrist pin to the piston. (2) Piston and piston pin inspection in the receiving room, where the piston is checked under an optical amplifier and held to a limit of 1/10 out of round and 1/10 taper, also a diameter within 3/10. These dimensions are segregated and pistons are marked to 1/10 of a thousand and selective assembly to the cylinder is held to 3/10 clearance between the piston and cylinder wall. The piston pins are segregated by tenths and selective assembly is made to the pin hole in the piston. (3) Lapping of the seal face of the crankshaft where diamond dust is used as a lapping compound, and a very high finish, as well as flatness of this surface, is maintained.

REFRIGERATION NEWS

Registered U. S. Patent Office

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DETROIT, MICHIGAN, JUNE 19, 1935

Copyright, 1935, by
Business News Pub. Co.THREE DOLLARS PER YEAR
TEN CENTS PER COPY**Radio Makers
Plan Voluntary
Code Operation****Van Allen Criticizes 'New
Deal Laws' at Annual
Meeting in Chicago**

CHICAGO—Discussion of industry problems arising out of the discontinuance of NRA and the formation of a new export section, to develop radio export trade, featured the three-day meeting of the Radio Manufacturers Association in Hotel Stevens last week.

Voluntary continuance of a few beneficial features of code operation were arranged for, but without any formal action or resolutions except for the development of a plan to continue the filing by set manufacturers of open prices.

Existing wage scales will, in general, be continued voluntarily, according to those present at the meetings. It was indicated, however, that most manufacturers will extend weekly working hours to 40, in preference to the 36-hour schedule under which they were held by code provisions.

Attendance at the sessions was considerably over the 100 mark, and the "RMA Cabaret," entertainment feature of the convention, drew upwards of 300 manufacturers and their friends.

In the discussion of trade problems resulting from the annulment of NRA, a feature of the convention was an address by John W. Van Allen of Buffalo, N. Y., RMA general counsel, criticizing "New Deal Laws," many of which he termed contrary to the American plan of government and individual freedom.

NRA did have some good features, however, Mr. Van Allen pointed out. These he commented on, as follows:

"No fair minded person would attempt to assert that no benefits had been derived by business by acquiescence in and compliance with these laws. For a period of nearly two years there has been an improvement in the observance of fair trade practices and many of the evils which existed in our industry before they were enacted, have not existed to the same degree as heretofore and the industry as a whole has become more stable."

(Concluded on Page 2, Column 4)

**New Distributor to Sell
Warren, Brunner Lines**

BEAUMONT, Tex. — The Warren Refrigerator Co., Inc., recently organized to distribute the Warren line of fixtures in the states of Louisiana and Texas, opened its main offices here June 1. Branch stores are located at Dallas, Fort Worth, Houston, and New Orleans.

In addition to the Warren line of cases and coolers, the organization will also handle the Brunner line of commercial refrigeration equipment. L. D. Galeswsky, manager of the fixture department of the Stedman Co. for more than 10 years, is vice president and general manager of the new company.

**Cleveland Distributor
Appoints 8 Dealers**

CLEVELAND—Midland Radio Co., distributor for Sparton refrigerators and radios, has added eight new dealers in Cleveland and surrounding territory, E. J. Hendrickson, manager, reports.

The new dealers are: The Miller Furniture Co., Massillon; Dennison Hardware Co., Dennison; C. C. Geib Motor Co., Millersburg; Burnett Electric Co., Maresh Piano Co., State Radio Co., Hendricks Electric Co., and Quality Furniture Co., all of Cleveland.

**Atlanta Firm to Handle
Lipman Equipment**

ATLANTA—Refrigeration Sales & Service Co. here has been appointed distributor of Lipman refrigeration equipment for the northern half of the state of Georgia.

Ralph L. Turner, president of the distributing organization, is assisted by David Galloway of the General Refrigeration Sales Co.

**Refrigeration and Air Conditioning
Market Data Off the Press**

DETROIT—A veritable encyclopedia of refrigeration and air-conditioning information will be made available to the industry with the publication this week of the 1935 REFRIGERATION AND AIR CONDITIONING MARKET DATA BOOK. First copies will be off the presses and in the mail to fill paid-in-advance orders the latter part of the week. The book, Volume II of the Refrigeration Library, measures 6 1/2 by 8 1/2 inches and contains 304 pages of statistical data and historical information. Like its sister publication, the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY, it is bound in a heavy green paper cover with buff back binding.

Surprisingly complete in content, the DATA BOOK includes facts and figures collected over a period of several years, many of which have been published in ELECTRIC REFRIGERATION NEWS. The material is arranged for convenient use by sales executives

and others interested in obtaining a detailed picture of industry progress, and tabular information is supplemented by numerous white-on-black charts and graphs.

Immediately following the detailed Table of Contents is a comprehensive account of refrigeration and air-conditioning industry development during the past few years by George F. Taubeneck, editor of ELECTRIC REFRIGERATION NEWS. Following this 20-page history is a section devoted to air-conditioning statistics, featuring a survey made by ELECTRIC REFRIGERATION NEWS covering number of installations and connected horsepower in 30 large cities.

The household refrigeration section offers a complete statistical picture of activities in the household field during past years with information presented in both tabular and chart form. Quantity and dollar value of (Concluded on Page 11, Column 4)

**Service License Is
Opposed in Buffalo**

BUFFALO—A proposed municipal ordinance, aimed at regulating the qualifications of electric refrigerator repair and service men, has been received and filed by the Buffalo Common Council after it had aroused a storm of protest from electrical appliance dealers and the Electrical League of the Niagara Frontier.

After voicing the protests of local dealers, Samuel S. Vineburg, secretary of the league, expressed the belief that the ordinance would not be passed. The council tabled the proposal.

Under provisions of the proposed (Concluded on Page 11, Column 3)

**York to Condition Air
On 6 Floors of Dept.
Of Interior Bldg.**

WASHINGTON, D. C.—What is said to be the largest single air-conditioning contract ever placed with one company has been awarded to the York Ice Machinery Corp. at a cost of approximately \$1,000,000.

The contract calls for a complete air-conditioning system for six of the seven floors of the U. S. Department of Interior Building in Washington, D. C. The seventh or top floor of the building, which is naturally the warmest due to the effect of the direct (Concluded on Page 7, Column 2)

**Newton, Iowa, Hotel Battles Summer
Slump with Air Conditioning**

F. L. Maytag (right), washing machine king, and E. W. Zeug, hotel president, turn on the 100-ton air-conditioning system of Hotel Maytag.

NEWTON, Iowa—F. L. Maytag, founder and president of the washing machine manufacturing concern that bears his name, was on hand to "turn on" the 100-ton air-conditioning system in the Maytag hotel here when it was formally put into operation early this month.

Installation of the Frigidaire air-conditioning system enables Newton, a city of 12,000 population, to boast that it is one of the few cities in the world with a completely air-conditioned hotel.

The lobby will be the only part of

the hotel not conditioned, the management feeling that to do so would make it the loafing spot of the county.

The Frigidaire air-conditioning system installed in Hotel Maytag consists of several plants. One hundred and nine guest rooms, nine kitchenette apartments, and two deluxe suites are air conditioned by a duct system for living and sleeping comfort.

Main dining room, with seating capacity for 75 persons, the tap room with a capacity of 25 persons, and (Concluded on Page 7, Column 1)

**Appliance Merchandising Plans
Presented to Dept. Store Men****Grant Attacks Government's Policies in Discussing
Future Market for Electrical Appliances**

By T. T. Quinn

CHICAGO—Problems ranging from the possibility of inflation and its effect on business to the handling of detailed credit department operations were reviewed by more than 4,000 retailers during the four-day mid-year meeting of the National Retail Dry Goods Association at the Stevens hotel here last week. In addition to the sales promotion and merchandising departments, the store

**Alabama Power Co.
Offers Easy Terms**

BIRMINGHAM, Ala.—Time payment rates on the purchase of electrical appliances almost as liberal as those offered by the Electric Home and Farm Authority have been put into effect in the South, even in the heart of the TVA territory, by private industry.

The Commercial Credit Co. has already entered into a contract to finance all paper in the territory served by the Alabama Power Co. and in which the EH&FA is enjoined from operating by the Federal court. Similar contracts are being negotiated with the Georgia Power Co. as well as with utilities in other Southern states. The leading appliance manufacturers are cooperating.

Under the "economy purchase plan" which is open to all dealers as well as utilities, major appliances may be bought on 36-month terms with the down payment on ranges and water heaters being \$2.50 and the monthly installments the same. Refrigerator (Concluded on Page 3, Column 1)

**Dealer Tells How He
Capitalizes on FHA
Program**

LOS ANGELES — George Silzer, wholesale manager of the George Belsey Co., Los Angeles distributor for General Electric appliances, has taken advantage of the sales possibilities of the FHA and institute a plan of action among the dealers in his territory, involving a concentrated plan of activity. First dealer to work the plan was E. H. Sadler, North Hollywood, who put over four FHA deals in the first month, one contract amounting to a \$1,500 loan, \$500 of which went into G-E appliances.

Mr. Sadler appointed a salesman, M. F. Green, to assume charge of his San Fernando set-up, the Porter (Concluded on Page 2, Column 1)

**Two Distributors Add
Timmerman Ranges**

CLEVELAND—Two electric refrigeration distributors have recently acquired the franchise for Timmerman Streamline gas ranges, manufactured by the Timmerman Stove & Range Co. of this city.

The new distributors are Hamburg Bros., Pittsburgh (Electrolux and Stewart-Warner distributor), which will have the Timmerman franchise in western Pennsylvania, western Virginia, and southeastern Ohio, and the Aitken Radio Corp. (Detroit and Toledo Crosley distributor), which has the Timmerman range distribution for southeastern Michigan and northwestern Ohio.

Both contracts were closed by George Timmerman of the Timmerman Stove & Range Co.

Representatives of Hamburg Bros. held a sales meeting in Cleveland, Sunday, June 16, to get acquainted with the product and the factory.

**\$767,161 Excise Tax Paid
By Industry in April**

WASHINGTON, D. C. — Mechanical refrigeration manufacturers paid \$767,161 in Federal taxes during the month of April as against \$559,929 paid in the same month last year, an increase of 37 per cent, according to Internal Revenue figures.

management, traffic, personnel, credit management, retail delivery groups also held sectional meetings, as did the annual Controllers' Congress, which met to consider financial and credit problems.

Tuesday night was "electrical appliance night" at the convention.

With "department stores and new industries" as their theme, W. J. Donald, managing director of Nema, R. H. Grant, vice president of General Motors Corp., Howard E. Blood, president of Norge Corp., and T. K. Quinn, vice president of General Electric Co., discussed the many angles of appliance merchandising as they applied to retailers in general.

In opening the session, D. F. Kelly, president of The Fair department store, Chicago, said that with proper merchandising methods department stores could sell twice as many electrical appliances as they now do.

His own store, he said, had recently effected changes in its appliance merchandising setup which have increased sales materially. Without explaining these changes, he invited retailers to inspect his store's department with a view toward obtaining ideas which might be applied to their own operations.

In his talk on "New Developments in the Electrical Industry Affecting Retailers," Mr. Donald took occasion to speak rather frankly to department store men about their merchandising practices, several of which, he said, seemed to him to be hindrances rather than helps.

"Either get in the electrical appliance business wholeheartedly or stay out altogether—don't mess up the situation for those who are serious about it," was his advice to retailers.

Chief faults which he found with department stores' merchandising of electrical appliances were:

1. Too many stores do not give electrical appliances major display. In a number of cases, Mr. Donald said, the electrical appliance department is found in some remote corner of the store, out of the line of general floor traffic.

2. Many stores have not yet discovered the art of proper merchandising. Electrical appliances, Mr. Donald said, demand specialty tactics—and as long as stores insist on selling them as "over the counter" merchandise, sales will never reach the heights of which they are capable.

3. In other cases, appliances have been put in merely to "fill out the line"—to keep up with department store practices in handling a little bit of everything, Mr. Donald said. When this happens, sales are never encouraging, because appliances are not given the promotion which they deserve.

Mr. Grant's speech, on "Potential" (Concluded on Page 11, Column 1)

**Bridgeport Dealers Form
Refrigerator Association**

BRIDGEPORT, Conn.—Electric Refrigerator Dealer's Association of Bridgeport was organized here recently. All local merchants selling electric refrigeration equipment are eligible for membership.

Officers of the new association are as follows: Joseph H. Lederer, General Electric dealer, president; John E. Logan, Atwater-Kent dealer, vice president; George E. Nothnagle, Kelvinator and Atwater-Kent, treasurer; Francis J. Hill, Chamber of Commerce, secretary; George M. Watson and J. M. Judson, Jr., directors.

**Malone to Head Lipman
Branch in Cambridge**

CAMBRIDGE, Mass.—Gordon J. Malone has been named branch office manager here for General Refrigeration Sales Co., Beloit, Wis.

California Dealer Tells How He Is Capitalizing on FHA Program

(Concluded from Page 1, Column 4)
Avenue Hardware store. Mr. Green studied all phases of the National Housing Act and advertised himself as a "home loan specialist," offering his services to anyone contemplating home repairs or modernization.

He averages about five applications a day for FHA loans. Sometimes a loan does not give him a sale, but that borrowed money brings in a friend who may be willing to include a G-E appliance.

"Green has gathered to him," Mr. Silzer explains, "a flock of small contractors to bring him people whose homes need repairs. Green draws up the papers, gets himself in with a refrigerator, range, or some other appliance; the borrower is grateful for the assistance, the contractor is tickled pink to get his job and to find someone to help him sew the deal up in a contract."

The dealer and the contractors cooperate in the matter of newspaper advertising.

Other dealers who have begun to capitalize on this source of appliance business include W. G. McWhinnie, Inglewood, Calif.; Huffman & Karmann, Riverside, Calif.; Kilmes Furniture Co., Ontario, Calif.; Don Bell, Redlands, Calif.; who has a home loan specialist in Beaumont, John Lehman, a ten per cent resident salesman.

To get additional dealers interested

in the plan, Mr. Silzer held a series of regional dealer meetings, taking Mr. Sadler along with him to tell his experiences and success with FHA loans, and to answer questions about the plan.

Mr. Silzer has prepared the following list of recommendations to get dealers started on the "Silzer plan":
"First—Select some individual in your organization to become your Home Loan Specialist. Make that person study the plan and become fully familiar with it.

"Second—Get a supply of all forms and blanks. Write Consumers' Credit Co., Los Angeles, for 'Property Statement' and 'Application Order' forms. They will cash your three-year contracts, 100 per cent, without any reserve, and without recourse on you. They will take contracts up to \$2,000 per home. Applications should be from good moral risks who are home owners, parties who have substantial equities in homes they are buying, even though not clear.

"If on Bureau of Power lines or Southern California Edison lines, write them for assistance in getting loans placed on the Title 2 plan which is the 20-year, 5 per cent interest plan for refinancing properties or for building a new home on vacant ground.

"Third—Start in on the Three-Year Plan (Title 1) for Home Improve-

ment. Concentrate on this for 60 days until you get it well under way. Meanwhile you can shape yourself up, by familiarity with the plans, to undertake the 20-Year Plan a little later on. The 3-Year Plan will not be offered the public after December 1, 1935. Work it while you can. The Title 2 plan is a permanent thing, good for additional years of activity.

"Fourth—Run announcement cards in your papers; put a boxed announcement in all your general advertising; run special advertisements in your own local paper and occasionally in other towns within your dealer jurisdiction. Make the public understand your firm is competent to assist them in understanding the Government Housing Act; that your Home Loan Specialist can assist them in filling their applications; and that you charge no fees for assisting them.

"Fifth—Let your attitude be to give them full consideration for the prime thing they have in mind—reshingling, repainting, reconcreting, walls, walks, redecorating, etc. Check each item with them, and leave the kitchen until last, then get in your recommendation for electric refrigeration, cooking, etc.

"Sixth—You be the agent to write up the entire improvement job. Get bids from local contractors for the new linoleum job—plumbing—painting, etc. Write their bids into the application. The money, upon acceptance of the application, will be paid to you and you in turn will pay the subsidiary contractors.

"Seventh—Line up your local small contractors to work with you. Get the contractor to bring in house owners whose buildings need repairing, etc. to you and then you can finish the job, draw the papers, get your appliances written into the deal and thus add these small contractors to the producing organization."

Mr. Silzer has also prepared advertising copy and suggested news releases.

Van Allen Attacks 'New Deal Laws' at R. M. A. Convention

(Concluded from Page 1, Column 1)

"We have conducted our manufacturing and selling on a greater degree of equality, regardless of locality, without lessening considerations of quality and we have improved ourselves by conforming our practices to the same pattern of business rules established for all competitors in our industry.

"We do not by any means feel that these beneficial results are now lost beyond hope of redemption and we feel certain that the sound provisions of these Acts can be preserved by an appropriate code of laws for business, adopted by Congress for interstate business, and adopted by the several States for business wholly within the State, and we see no reason why an approximate uniformity in these laws, Federal and State, cannot be enacted.

"What we have learned is that these laws were not enacted in a valid manner or by the legislative bodies having authority to enact them.

"With this knowledge, progress is not necessarily retarded, but may go forward on the foundation of experience."

Other pending New Deal legislation, notably the Social Security Bill, the utility holding company bill, the National Labor Relations (Wagner) Bill, and the Thirty Hour Week Bill, Mr. Van Allen said, "in their present form would seem to transcend the powers of Congress to enact."

Recent decision against the NRA, he said, did not alter the power of Congress to regulate commerce between states and with foreign countries, nor was power relegated to the states which they did not already possess, nor were there established any new fundamental principles of our dual form of government which had not been recognized for a century or more.

Concerning the much-discussed proposal to alter the Constitution to extend the Federal government's powers, the speaker said the following issues are involved:

"1. Shall there be added to the enumerated powers of the Congress of the United States, the power to legislate on subjects heretofore reserved to the States?

"2. Shall the legislative power also be vested in the Chief Executive in the Federal government?

"3. Shall executive officers likewise have power to delegate the power to legislate so that we may also have government of laws or government of men, as may suit the administration in power at the time; and

"4. Shall the power of the Supreme Court of the United States to determine disputes between the States and the Federal government and disputes over the encroachment of powers under the Constitution be revoked, leaving the settlement of such disputes to popular ballot or by action of the States?"

"No one contends against the right of the people to change the Constitution if they so elect," Mr. Van Allen said. "But before such a change is made, let us know clearly what it is, in order that it may be changed on its merits, free from political personal, or emotional bias."

Another question, the speaker said, is facing the country—one which touches the daily industry of all of us. Concretely stated, it is:

"How can we pay from the fruits of our labors, our private debts, our business debts, and out proportion of the great public debt which has been created by the Federal Government and by states and municipal governments?"

"Business cannot stand any more overhead of this character," Mr. Van Allen said, "and without business, there cannot be employment or gainful occupation."

He advocated courage, "to check the increase of debt and insist on the decrease of overhead expenses of government agencies."

"Otherwise," he said, "the properties which we are now guarding will be taken in payment for our public and private obligations. More laws imposing greater burdens are likely to be destructive rather than constructive."

Industry leaders were also warned by Arthur T. Murray of Springfield, Mass., chairman of the Set Division and former code supervisory agency, against "chiseling" on wages. Industry, rather than government, now has the problem of solving the unemployment situation, Mr. Murray said.

The electrical code under which radio manufacturers operate, imposing a 36-hour week, was manifestly unfair, he said, and he urged continuance of a voluntary plan of filing set prices. This latter move, he said, was an important step in the right direction—toward a cleaner industry.

There were no merchandising displays and little trade attendance at the meeting. Sessions were devoted exclusively to business, with the ex-

ception of an "old guard" luncheon, at which Arthur T. Haugh, of Sparks-Withington Co., H. B. Richmond, and Fred D. Williams, former RMA presidents, and other former directors, were guests.

Further development and increased funds for national sales promotion were voted by the RMA directors, following a report by Powell Crosley, Jr., president of Crosley Radio Corp. and chairman of the trade promotion committee.

The present and most successful promotion of the RMA has been confined to a short-wave program and publicity service. The plans of the RMA were well organized and conducted for a trial period of six months which terminated April 30.

RMA's board of directors has decided on its continuation and also expansion and development.

Presenting the final report of the code committee, William Sparks, president of Sparks-Withington Co., and chairman, said:

"The Supreme Court decision annulling all NRA codes has written a definite and emphatic 'finis' on the electrical code under which radio manufacturers have temporarily operated, and on a situation which for a time threatened the continued independent existence of the radio industry and RMA. The future is in your hands and I hope you may salvage from the code wreckage the benefits of industry cooperation, self-government, and the few advantages which developed from the code era.

"The objectives of our membership, your Board of Directors, and your Code Committee were broadly outlined a year ago in our 1934 annual convention decision to secure a separate and independent code for the radio industry. These objectives were, first, to maintain freedom of action and independence of the radio industry, and second, to be relieved of the financial burden of code administration under the National Electrical Manufacturers Association jurisdiction which was regarded as excessive in cost and indeed impossible.

"The RMA emerges from the complex code situation with a stronger and more stable organization and with a larger membership and complete industrial independence."

The present RMA organization was continued for the coming year. In addition to President Leslie F. Muter of Chicago, other officers and directors were reelected including Fred D. Williams of Philadelphia as treasurer; Bond Geddes of Washington, D. C., executive vice president-general manager and secretary, and John W. Van Allen of Buffalo, as general counsel.

Arthur T. Murray of Springfield, Mass., was reelected vice president and chairman of the Set Division, and Arthur Moss of New York vice president and chairman of the Parts, Cabinet, and Accessory Division.

President Muter continued all RMA committee chairmen, as follows: Credit Committee, Arthur Moss, chairman; Engineering Committee, W. R. G. Baker, chairman; Legislative Committee, Paul B. Klugh, chairman; Membership Committee, Ben Abrams, chairman; Trade Promotion Committee, Powell Crosley, chairman; and Traffic Committee, J. C. Warner, chairman.

WANTED, Factory superintendent refrigeration (700 men plant). First class mechanic and must have executive ability. Only those who have had experience as factory superintendent and have the best of references need apply. Exceptional opportunity for right men willing to take position in South America. Box 711, Electric Refrigeration News.



**The New 1935
BUCKEYE
offers
Serviceable
6 Cu. Foot
Stream-Lined
Cabinet
at
LOW PRICE
to DEALERS**

THE Buckeye Model 600 meets all competition. Now a large modern streamline refrigerator is available in which a satisfactory margin of profit is allowed to the dealer. Quality has been stressed as well as efficient refrigeration at low cost.

This roomy 6 cubic foot net streamline cabinet is a 1935 model—an important selling feature, and it costs no more to operate our 6 cubic foot Buckeye than many 4 cubic foot competitive models. The new Buckeye is sold and approved by many of the larger dealers.

Prompt deliveries are being made and your orders will receive immediate attention. Complete sample refrigerators are on display at our showrooms in New York and Chicago. Wire or write for further details and prices on this fast selling Buckeye Refrigerator.

The DOMESTIC INDUSTRIES Co.
MANSFIELD, OHIO

PERMANENT DISPLAYS

American Furniture Mart
666 Lake Shore Drive
Chicago, Illinois

New York Furniture Exchange
206 Lexington Ave.
New York, N. Y.

**Smart, Attractive
INTERIORS
Sell Refrigerators**



**EVAPORATOR DOORS,
VEGETABLE FRESHENER
and SERVICE DRAWER FRONTS**

*In our newly developed finishes
of Special Alloy Aluminum*

ICE CUBE and DESSERT TRAYS
VEGETABLE FRESHENERS
STORAGE PANS

HOOSIER
LAMP & STAMPING CORP.
EVANSVILLE, INDIANA

Publications Urged To Censor Copy for Retail Advertising

CHICAGO—A resolution advocating newspaper censorship of advertising copy, passed by the board of directors of the sales promotion division of the National Retail Dry Goods Association, was a high spot of the mid-year convention of the association last week at the Stevens hotel.

Paul E. Murphy, advertising manager of Frederick Loeser & Co., Brooklyn, is chairman of the division. The resolution reads:

"Resolved—that the sales promotion division of the National Retail Dry Goods Association endorses the work of the New York City newspapers in protecting the integrity of retail advertising through constructive censorship of retail copy, and recommends that newspapers in other cities follow suit; and furthermore, that all other advertising media follow this same philosophy of censorship to advertising as a whole."

Commenting on the move, Mr. Murphy, stressing the benefits to retailers resulting from censorship policies and procedures of New York City newspapers, declared that the board of directors was on record as opposed to advertising copy which discredits advertising as a whole.

"Recognizing the tremendous strides made by New York City newspapers in cleaning up retail advertising by refusing to run any copy which has the effect of destroying faith in it, we recommend that these policies be adopted by newspapers in all cities, and also extend it to the control of all forms of advertising."

Those attending the sales promotion directors' meeting were: P. E. Murphy, Frederick Loeser & Co., Brooklyn; John Wood, B. Altman & Co., New York City; G. R. Schaeffer, Marshall Field & Co., Chicago; W. H. MacLeod, Wm. Filene's Sons Co., Boston; Andrew Connolly, Jos. Horne Co., Pittsburgh; William Howard, Gimbel Bros., New York City; L. S. McMeekin, The Boston Store, Milwaukee; O. R. Strauss, Rich's, Inc., Atlanta; and F. W. Spaeth, manager, sales promotion division.

Alabama Power Co. Offers Easy Terms

(Concluded from Page 1, Column 4)

payments run \$3 per month. A combination of two appliances, for example a range and a refrigerator, may be paid for over 48 months with the payments running \$4 per month. Such a plan will enable families with incomes of as low as \$75 to \$125 per month to purchase these appliances.

Any dealer may take advantage of the plan provided the utility in his territory and the manufacturer of his product are cooperative. The dealer agrees to furnish credit information on the purchaser, make necessary service calls, and repurchase any appliance which the finance company has to repossess.

A net amount applies on bills paid when due, a gross amount if 10 days past due, a \$1 reinstatement fee where the bill is 20 days past due. Immediate repossession is taken if the bill becomes 30 days past due. Billing and payment of bills is at the nearest utility office.

Brackhold Heads Appliance Section of Kresge Store

NEWARK—Frank R. Brackhold, who has been associated with the Kresge department store here for several years, has been appointed manager of the major appliance division of the Kresge store.

1,563 Refrigerators Sold in Georgia Power 'Circus'

ATLANTA—At the end of one-third of the campaign period of the "Sales Circus" activity now being conducted by the Georgia Power Co., 2,371 appliance units, or 29.3 per cent of the combined quota, were sold.

Units sold include 1,563 refrigerators, 390 ranges, 203 water heaters, 17 water coolers, and 144 commercial refrigeration installations.

Milwaukee Refrigerant Bulletin 'Confidential'

MILWAUKEE—Milwaukee Association of Commerce has sent out a letter warning members that any use of its recent bulletin on refrigerants, which minimized their hazards, would be misleading and deceptive.

The bulletin was intended, says the letter, as a report for the information of an advertiser who represented, in effect, that the refrigerant used in his refrigerator was safe whereas others constituted a fire, explosion, health, and accident hazard.

In the water, but not wet

No matter how cold the water in which a duck swims, it is able to keep comfortably warm because its feathers do not get wet. If this were not so, the bird would be chilled and soon perish. But so long as the feathers are dry, they insulate the fowl's body and keep out the cold.

Most materials used for insulating refrigerators are "hygroscopic." That is, they do get damp in use. For moisture inevitably gets through the walls of any refrigerator in use, in spite of so-called moisture seals. Any high school student of physics knows that with a difference of 40 or 50 degrees in temperature between the warm outer shell and the cold inner wall, there must be a condensation point within the wall.

If the insulation is "non-hygroscopic," that is, if it resists moisture like a duck's back, it will be unaffected. Otherwise it will absorb the moisture and become damp. And damp material, of whatever nature, will not insulate. It will ruin the efficiency of your refrigerator in a short time by placing too much burden on the unit. It will result in high current cost, poor refrigeration and eventual breakdown.

Scientific research discovered in the Dry-Zero fiber a commercially practical "non-hygroscopic" material. To be sure your customers will never have any cause for dissatisfaction from insulation failure, insist on Dry-Zero Insulation in the boxes you sell. If you are now selling Dry-Zero insulated refrigerators, be sure to tell your prospects why this better and more expensive insulation will save them from 30 cents a month when new to as much as \$1.50 in cost of electricity. Dry-Zero Insulation will give them efficient heat-stopping protection for the entire life of the refrigerator.

Dry-Zero Corporation, Merchandise Mart, Chicago, Ill. Canadian office, 687 Broadview Ave., Toronto, Ontario.

DRY-ZERO
REG. U.S. PAT. OFF.
THE MOST EFFICIENT
COMMERCIAL INSULANT KNOWN



Careful Personnel Selection and Better Initial and Corrective Training Proposed for Dept. Stores

CHICAGO—Better selling can only be obtained through a more careful selection of personnel, good initial and corrective training, improved methods, and good supervision, Thomas F. Kelly, manager of the dealer relations division of the Hoover Co., manufacturer of electric cleaners, told a joint meeting of the N.R.D.G.A. store management and merchandising divisions.

Selection of sales personnel and the initial and corrective training of sales people are two things which deserve prime consideration, Mr. Kelly said. "There are certain qualifications that should be insisted upon before the sales person is engaged," Mr. Kelly said. "In our sales organization it is seldom a man is employed if he is less than 25 years of age—we prefer men with dependents and we are not anxious to employ men who have sold electric cleaners for some other manufacturer. These are just some of our qualifications.

Training Important

"The training given to the sales person is highly important. In our operations, 24 hours inside and 48 hours in the field are devoted to his initial training alone. First, he receives 8 hours of inside training on the first day. The second day he receives 4 hours in the field and 4 hours on the inside and the same training is applied for an additional 3 days. During the second or third week, the new salesman, in addition, receives 32 hours of field training and, therefore, each of our salesmen, on an average, receive 72 hours of inside and field training before we feel that he is competent to properly represent us and one of our dealers. "Corrective training, inside and in the field, is supplied as required as long as the salesman remains in our employ.

"Do you devote as many hours to the initial and corrective training of your sales people, and are the subjects those that will mean increased sales per sales person employed, or simply that the sales slip will be made out correctly, et cetera?"

Challenge Operations

"Early this year we challenged every function of our operations, our engineering research, our production operations, our advertising, and our sales demonstration, and I do not know of a better suggestion that I might offer to each of you than to question the qualifications that you have set up for the people you employ and the type of training they receive.

Selling in department stores today is only about 50 per cent efficient, perhaps less, Mr. Kelly said.

"The most efficient department store is the store that is best organized—where each sales person knows his work and does it with the least amount of supervision.

"The principles of organization in-

clude the following two, relating to the subject we are discussing, that of teaching each sales person how to sell, then checking regularly to be sure the sales person is really efficient.

"I have previously referred to the fact that early this year we challenged our sales demonstration. This sales demonstration called 'The Standard Way' had been developed to a point where it was looked upon as a text book in modern specialty selling and had been copied by many other specialty sales organizations and had also been used by some department stores in the development of their sales manuals. This sales demonstration, however, was challenged and resulted in a group of men checking on actual sales and unclosed demonstrations, to determine what it was in the demonstration that caused people to buy and what had been omitted in the unclosed demonstration.

Study Customers

"Our findings opened our eyes, and as a result of these investigations, a new and simple, and yet more efficient demonstration was developed and is producing unexpected results for us. I would, therefore, like to suggest that similar investigations be started in your store. Learn:

"1. What customers like about your store.

"2. What customers do not like about your store.

"3. Why customers are lost.

"4. Why people buy in other places.

"5. How your salesmen can please your customers.

"Claims have been made that about one-third of the customers lost to a store are because of unsatisfactory salesmanship. Yes, we need sales supervision.

Supervision

"Now, about the actual supervision, have you given any thought to the number of salespeople to be assigned to each supervisor; remember in the army seven privates report to a corporal and in certain departments in many factories, where close supervision is necessary, there are as few as 10 workmen to a foreman.

"There was a time when we had a supervisor to eight salesmen, but now a supervisor or a junior manager is provided for each five salesmen.

"I feel sure you are devoting sufficient hours to the initial sales training of your new sales people, but how about their corrective training, which comes under your supervision.

"Specialty selling organizations have the morning and weekly sales meetings—how does that compare to the number of sales meetings that you conduct of your sales force?"

"Enthusiasm is aroused at these meetings by songs, reports from real producers, and inspirational talks. Why can't a similar plan be followed in your store?"

"Above all, arouse enthusiasm."

Instalment Selling Credit Problems Considered By Dept. Store Men

CHICAGO—Problems in instalment selling and methods of meeting them; and the credit manager's function in assisting the merchandising department, were the two main topics discussed by the speakers at the meeting of the Credit Management Division, N.R.D.G.A., held last week at the Stevens hotel here.

Nearly every speaker made some reference to the operation of his store's refrigerator department, to illustrate a point in his address.

"Certain commodities will stand longer terms than others," declared J. P. Olive, credit manager, Titche Goellinger Co., Dallas, Tex. "Terms should be determined by the credit department and the control should be left wholly thereto.

"For instance, a refrigerator can safely be sold on the two and three-year plan, but certain other items cannot. It is quite often the case that washing machine department managers, radio department, furniture heads, or others, knowing that the three years are being granted within the refrigeration department will clamor for longer terms, and, in so doing, there is ever an uproar in selling divisions from a credit standpoint.

Success with Refrigerators

"The argument generally placed before the merchandising management by departmental sales managers for more liberal terms is on the basis of the fact that the refrigerator business has been successful and that more liberal terms should be granted.

"Is it possible that the time has come when we must sacrifice the sound principles on which we have operated and submit to the ideas recommended by merchandising men whose primary objective is selling only?" Mr. Olive asked.

"The fact that a credit department has safely and intelligently handled some special commodity on the instalment plan certainly does not warrant its being imposed upon by forcing longer terms and including items thereon that should not be sold on instalment terms.

"I believe there are advantages in the instalment plan and I think it is an essential part of any modern department store and I fully appreciate the fact that it, too, makes possible a chance for the retailer to work idle capital that is not being used," said Mr. Olive.

Profit on Instalments

"For instance: the electric refrigeration business has become very attractive, as it has been possible to, thus far, maintain a standard of charging customers a reasonable carrying charge from which a reasonable profit can be expected on the time-payment plan.

"There is, too, the attractive feature in this type of business from the chattel mortgage standpoint. There is certainly a greater incentive on the part of the debtor to try and liquidate his obligation if you have the advantage of reminding him that the merchandise can be taken away unless it is paid for and, too, I am not unmindful of the fact that with our modern system of handling instalment accounts, there is an excellent control from the collection standpoint."

In providing for an efficient deferred payment collection system, the credit department of Ed Schuster & Co., Milwaukee, begins literally at the beginning: when the account is opened, declared Erwin Kant, credit manager.

Sound Credit Extension

Requirements for sound credit extension, as outlined by Mr. Kant, are as follows:

1. A down payment sufficiently large to insure the customer's having an equity adequate to arouse the feeling of ownership.

2. A length of time extending in no case beyond the effective life of the merchandise. In many cases, it should be a good deal shorter.

3. A carrying charge large enough to compensate the retailer for the service he is rendering.

4. We do not usually consider a contract necessary if we have a good monthly account for the customer, and if the amount of the instalment account is under \$250—provided all requirements for sound credit extension are met. Contracts should, however, be secured in other cases, chiefly for the moral effect on the customer.

"One of the most important questions the credit report can answer is that of overbuying," said Mr. Kant.

"No matter how good the customer's past paying habits have been, no matter how secure his employment appears, if he has amounts payable out of proportion to his easily available resources, or if his total monthly or weekly payments after your account is added will seem too heavy a load to carry (and we must allow for emergencies) the account should not be opened."

According to Mr. Kant, his credit department works through all the instalment ledgers every 15 days, checking the collection cards against the ledger. There is space on the cards for a series of letter numbers, dates, and amounts. The account analyzer, when he finds an account overdue, enters the number of the appropriate letter and the amount overdue in the spaces provided on the card.

The accumulated cards are later sorted out according to the numbers of the letters run on the duplicraph. The collection cards are dated when they are returned to the collection clerical. Incoming correspondence and the carbon of any dictated letters we may send are folded to fit the card and attached to the back of the card with a rubber band.

"The most important follow-up is the first," believes Mr. Kant. "It must be sent promptly—a few days after the account is overdue; it must assume that the customer intended to pay (the old 'oversight' story is the stand-by, of course); and it must carry on the friendly feeling the interviewer established.

"When our letters do not make satisfactory headway, we send an outside man who understands his job is not to collect, but to gather the information which will enable the collection department to determine the proper procedure. The object is to get the customer to tell the outside man as much as possible about the entire situation, and the call is a very friendly one.

Interview Prospects

"The outside man sells to the customer the desirability of her calling regularly at the credit office as long as she is unable to pay in full. We use the telephone also, but in general we find the personal call more satisfactory.

"We force collections only when we feel that the customer is able to pay, and is trying to evade payment."

Schusters have found by an analysis of accounts opened and the habits of payment, that advertising low terms attracts a poor type of credit risk, says its credit manager.

"We do not advertise specific down payments or definite terms except in the case of certain nationally advertised items which we have no choice," he says.

"In other ads, we never frame an advertisement for divided payments in a manner that will tie our hands in the credit department: our object is to fit the terms wherever possible to the individual customer, though of course there are certain minimum requirements for payment below which we do not go. No advertisements mentioning terms are released without the written authority of the credit department."

Think About Store

Credit managers should get outside of the credit department and think more generally about the store as a whole and store profit, Russell Fish of the May Co., Denver, told the assembled credit managers.

"Have you ever suggested to the manager of the electric refrigerator department to have his salesmen suggest to customers they could add to their refrigerator contract a coffee urn, a waffle iron, and other similar electrical items with a very small amount added to their monthly payments," he asked.

"It helps to sell electrical appliances that undoubtedly would not be sold otherwise.

The fact that instalment selling is not only here to stay, but that it is generally replacing 30-day accounts, cannot be denied, averred Mr. Fish.

"There is a very definite trend in this direction and we must prepare to meet our customer demands," he advised.

"Many condemn the meter-ice and bank plans for selling electric refrigerators and washing machines. Also, the sale of miscellaneous items such as: floor lamps, cedar chests, expensive glassware, watches, statuary, and other items on deferred payments.

"When proper investigation of your credit risks is made, and you know to whom you are selling your merchandise, and have a strict and efficient follow-up, it is profitable and desirable business.

"It does not cheapen your store to sell merchandise on deferred payments. Many of the best stores in the country have gone into instalment account business on a large scale. Just last month several large New York department stores announced deferred payments up to six months on men's clothing."

Speaking of "The Credit Department as a Sales Promotion Factor," H. C. Hendrix, credit manager of Kaufman-Straus Co., Inc., Louisville, Ky., said:

"Long ago we relegated to the waste basket the old conception of credit manager. In modern day merchandising a more proper definition of our position would be that of manager of credit sales. During the past few years when merchants have experienced greater difficulty in obtaining business, it has been natural that they would turn to the credit department for assistance."

New Account Contests

New account contests among employees is one type of sales promotion effort which a credit manager can inaugurate, said Mr. Hendrix.

Cards were distributed to employees on which they wrote the name, the address, and any other information that they had concerning prospects such as the place of employment, names of other stores where their prospects had charge accounts, the name of their bank, whether or not they owned their home, etc. Credit reports were obtained on all of these prospects and the cost involved was negligible in comparison with the result obtained.

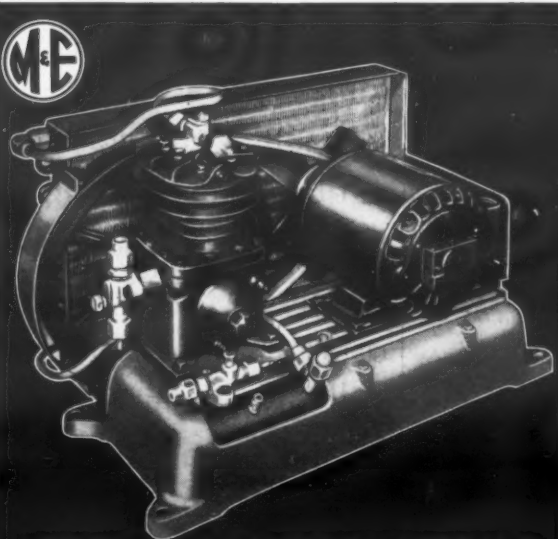
"Where outside salesmen are selling appliances we find," declared Mr. Hendrix, "that they frequently do not obtain proper credit information through our credit bureau and if we cannot do this we instruct the salesman to get us more information, or ask the customer to come in to our office for an interview.

"In a great many cases we find that a second trip by the salesman or an interview in our office completely changes the picture of the applicant.

"We furnish to our appliance departments a list of our satisfactory regular accounts and club accounts and this has been of great assistance to them in making sales. It helps to do away with the 'door-bell ringing' canvass and gives them prospects with credit already established."

CURTIS REFRIGERATION

Commercial & domestic units. 1/6 h.p.—15 h.p.
Distributor franchises available. Write to:
CURTIS REFRIGERATING MACHINE CO.
Division of Curtis Manufacturing Company
1912 Kienlen Ave., St. Louis, Mo.



MAXIMUM EQUIPMENT PERFORMANCE

Depends on the Compressor—

"MAE" Compressors have a nine year record of reliability and economy in the operation of every type of refrigeration equipment.

1/6 to 10 h.p.

Air Cooled
Water Cooled
Air and Water Cooled

Complete Line of
BARE
COMPRESSORS
for service
companies and
assemblers.

Catalogs
on Request

MERCHANT & EVANS CO.
Manufacturers
Established 1866

Main Offices —
Showrooms
PHILADELPHIA, PA.
Plant:
LANCASTER, PA.

Sell them **COPELAND**



Only 4
MODELS
all FAST
MOVERS

And KEEP THEIR
GOODWILL!

It is just poor business to sell a valuable customer an electric refrigerator of doubtful quality. Most refrigerator merchants carry other commodities such as radios, washing machines, etc. A satisfied refrigerator customer may make many other purchases as time goes on.

Copeland dealers are building good-will by selling this quality-built line, designed to render efficient service year after year. Every Copeland purchaser becomes a Copeland booster. If you are beginning to wonder if you have the right line, better look up Copeland NOW!

COPELAND REFRIGERATION CORPORATION

Manufacturers of a Complete Line of Household and Commercial Refrigeration
Holden Ave. at Lincoln ... DETROIT, MICH.

Copeland
DEPENDABLE Electric REFRIGERATION

AIR CONDITIONING

80 6-Room Houses to Be Conditioned with Airtemp Equipment

FLUSHING, L. I.—Eighty six-room, two-story houses with complete year-round cooling, heating, ventilating, and conditioning, and priced at less than \$6,000, are to be constructed here during the next six months by the Friendship Homes, Inc. Chrysler Airtemp units will be used exclusively for the air-conditioning of these houses.

Airtemp units utilize the domestic water system as a medium of heat transfer. The hot water heater, fired by an oil burner, and a refrigeration compressor for cooling water, are located in the basement. The conditioning unit, which heats, cools, humidifies, dehumidifies, and circulates the air, is concealed in a special compartment on the first floor of the house.

The heater provides hot water for the coils of the unit during winter and serves as the source of domestic hot water supply throughout the year. The compressor chills water for the unit in summer when the house is to be cooled and conditioned.

The changeover from heating to cooling can be made by turning a single valve. This cuts off the heating or cooling without interfering with the water supply. Humidification or dehumidification is controlled by a separate valve.

Six of the houses are now under construction and the first of them to have its air conditioning completely installed was open for public inspection last month.

Summer Conditioners Shown in Newark

NEWARK—The second annual New Jersey Air Conditioning Show was held June 3 to June 8 under the joint sponsorship of the Public Service Electric & Gas Co. and manufacturers of air-conditioning equipment, with 30 manufacturers and dealers in summer and winter air-conditioning equipment having exhibits.

Director of the show was H. P. Morehouse, general air-conditioning representative, Public Service Co. James H. Stapleton, agent, Newark Commercial, was chairman of the arrangements committee.

Other utility men who were chairmen of committees were: C. S. Dallas, air-conditioning representative, Bergen division; educational, C. S. Cronkright, industrial fuel representative, Essex division; reception, W. D. Smith, air-conditioning representative, Central division.

This display was divided into two sections—one devoted to equipment for cooling and dehumidifying warm summer air, and the other for heating and humidifying homes, offices, factories, and other buildings in winter.

The following features were exhibited on certain days set aside for special groups:

Monday—Store Owners—A model restaurant air-conditioned dining room.

Tuesday—Architects and Builders—The latest designs in gas-heating equipment.

Wednesday—Heating and Plumbing Contractors—Details on installation methods and operating costs of equipment.

Thursday—Home Owners—A living room and a bed room, both air-conditioned, gas-fired heating equipment, comparative operation and installation costs, metal weatherstripping, storm windows, and several types of insulation.

Friday—Doctors and Dentists—A completely equipped modern dentist's office, air-conditioned.

Saturday—Students—Instructors, engineering students, manual training, and science students had an opportunity to study features of air conditioning.

Hedges Directs Industrial Sales for Nesbitt

PHILADELPHIA — H. Berkley Hedges has joined John J. Nesbitt, Inc., manufacturer of heating, ventilating, and air-conditioning equipment, as manager of industrial sales.

As part of the Nesbitt plan to increase its distribution in the industrial field, Mr. Hedges will appoint sales representatives in various sections of the country.

Mr. Hedges has been connected with Buffalo Forge Co., Carrier Engineering Corp., E. I. du Pont de Nemours & Co., and the York Heating & Ventilating Corp.

Trane Booklets Gives Data On Product & Engineering

LA CROSSE, Wis.—New literature issued by the Trane Co. of this city includes a pamphlet on Trane product coolers and a booklet on Trane fans for heating, ventilating, drying, and air conditioning.

The leaflet on product coolers describes, illustrates, and gives specifications for 10 models of product coolers.

The booklet deals with construction, structural specifications, wheels and balance, bearings, recommendation for applications, and standard arrangements in the first few pages. Charts and tables for roughing-in dimensions for single-width, double-width, and twin fan units, duct construction, capacities, and circular equivalents of rectangular ducts for equal friction are dealt with in the remaining pages of the booklet.

2 Ft. Wayne Hotels Order Conditioners

FORT WAYNE, Ind. — Air-conditioning equipment costing \$6,500 has been ordered for installation in Hotels Keenan and Anthony here by James Keenan, manager of both places.

The order was placed through E. A. Barnes Electrical Appliances, Inc., Fort Wayne General Electric air-conditioning dealer.

Installation for Hotel Keenan will provide year-round air conditioning for its new cocktail room, and is also designed to take care of an adjoining bar room, now cooled and heated by another method.

The cocktail room, 22x33 ft., with accommodations for 50 people, will be supplied with 2,000 c.f.m. of conditioned air, including 1,000 c.f.m. of outside air, and providing 16 air changes per hour, in summer. In winter the system will supply 1,200 c.f.m. of conditioned air.

Operated by automatic controls, the system includes cooling and heating equipment, humidity control equipment, and filters. Cost of the installation is approximately \$2,500.

In Hotel Anthony the space to be

conditioned includes a bar room seating 40 people, a grill room seating 70, and the Oak Room, which accommodates 60.

Designed for summer air conditioning, the system will supply 6,000 c.f.m. of conditioned air, including 2,600 c.f.m. of outside air, with 14 air changes per hour. Installation cost is approximately \$4,000.

2 Young Catalogs Give Data on Complete Line

RACINE, Wis.—Two new catalogs just brought out by Young Radiator Co. here describe the company's complete line of units for heating, cooling, and air-conditioning purposes, and incorporate charts, tables, and engineering data for estimating purposes.

Catalog No. 435 describes the Young products, and is filled out with a number of performance tables and examples of heating and cooling problems.

In catalog No. 535 is included such engineering data as method of estimating the size of the evaporator, capacity factor "K" for evaporators, carrying capacity of copper pipes in tons of refrigeration, and thermodynamic properties of refrigerants.

Display Units Cool Air at Exhibition

PITTSBURGH—First annual air-conditioning exhibit sponsored by the newly organized Air Conditioning Bureau of the Electric League of Pittsburgh is being held this month.

Air is filtered, dehumidified, cooled and supplied to the entire exhibition room through the operation of the units on display.

Members of the organization sponsoring the exhibit include the following representatives of manufacturers:

Danforth Co. (Westinghouse), Suburban Electric Development Co. (Frigidaire), Pittsburgh Refrigeration Co. (Strang Co. and Frick Ice Machine Co.), York Ice Machinery Corp. and Dravo Doyle Co. (Carrier Engineering Corp.), West Penn Power Co., and Duquesne Light Co.

Kelvinator Opens Chicago Air-Conditioning Display

CHICAGO—Air-conditioning activities of the Kelvinator Corp., Detroit, in this area will be centered in the American Forge Building here.

WHERE SKILLED HANDS AND "FREON" AIR-CONDITIONING BECKON— SUMMER BUSINESS INCREASES IN BEAUTY PARLORS AND BARBER SHOPS



THE NEWS spreads quickly when a beauty parlor or a barber shop installs air-conditioning. It's natural that men and women should seek the places offering skilled service and cool comfort. Then business increases, new customers are permanently won.

The owners and operators of beauty parlors and barber shops everywhere know that air-conditioning has established its investment value. They are among your best prospects. And since it is highly important when air conditioning goes in that only the right kind of air conditioning is installed, you will find it very much worth while to emphasize

the conspicuous record of performance of "Freon"—a safe refrigerant.

"Freon" is non-toxic, non-flammable, and odorless when mixed with air. If it should escape from a refrigerating system, it would not cause panic or endanger human life

and barber or beauty shop patrons wouldn't make spectacles of themselves by rushing to the street with soapy faces or hair in curlers. "Freon" is safe. It can cause no damage to equipment. It will not cling to fabrics. It is the ideal refrigerant for air conditioning. In thousands of installations, in homes, hospitals and in apartment houses; in department stores, specialty shops and railroad cars; in museums and libraries; in beauty parlors, in barber shops, in undertaking establishments, and in florists' shops—"Freon" air conditioning is rendering complete, safe, and reliable service.



FREON

REG. U. S. PAT. OFF.

a safe refrigerant



Beauty Shop in R. H. Stearns Co. Department Store, Boston, "Freon" Air Conditioning equipment by Westinghouse.



Helen Milner, Inc. Cleveland, Ohio. "Freon" air-conditioning system installed by the Frigidaire Corporation.



In the Beauty Shoppe at May's Department Store, Baltimore, Md., "Freon" air-conditioning was installed by York.

KINETIC CHEMICALS, INC., TENTH AND MARKET STREETS, WILMINGTON, DELAWARE

PERSONALITIES

By George F. Taubeneck

Publicity Men

How to keep "free publicity" out of their papers becomes more and more one of the leading questions before associations of periodical publishers. Last week at the meeting of the Inland Daily Press Association in Chicago LINWOOD I. NOYES of the *Globe*, Ironwood, Mich., led a discussion of his membership on that subject, and during the course of his remarks refrigeration publicity men should have taken a bow. Cried he:

"I pick up a newspaper, and on one page see Kelvinator's free publicity headed, 'The Kelvin Kitchen,' and on the next a quarter-page paid advertisement for General Electric!"

And we'll wager the General Electric distributor in that city wasn't any too pleased about it, either.

One of the problems of editing *ELECTRIC REFRIGERATION NEWS* is puzzling over how to present the news of the industry in each issue without giving readers reason to believe that we have "sold out" to one company or another. After one concern has figured rather prominently in the news for two or three issues, we are likely to receive some caustic letters from representatives of competing organizations. And then these rivals may bob up into the news, leaving dealers from Company No. 1 disgruntled.

After a reader has been taking the *News* for a period of time, he begins to see that it all balances up in the end, realizing that all concerns are not equally active at the same times. Most important, he learns that *ELECTRIC REFRIGERATION NEWS* strives to be impartial, fair, and independent.

Editorially, the *News* goes to considerable lengths to demonstrate its independence, even though such

demonstrations frequently bounce heavily off somebody's toes, and cause repercussions which are occasionally costly.

Trying to be fair and impartial in covering the news of the industry also becomes complicated by the efforts of some exceedingly smart publicity men.

In the past we have talked about such brainy, resourceful fellows as JIM IRWIN (former Hearst editor and assistant publisher) of *Frigidaire*, FRED BOLLMEYER of General Electric, JIM BECKMAN (who used to be ELBERT HUBBARD's amanuensis) of Crosley, BOB RICHARDS of Westinghouse, and others who scheme to make *ELECTRIC REFRIGERATION NEWS* a house organ for their particular employees.

But somehow we have missed writing any eulogies on an exceedingly remarkable young man, GERRY STEDMAN of the Cramer-Krasselt Co., Norge's advertising agency. We'll do that little thing right now.

Concerning Gerry Stedman

Gerry can't compete with fellows like Richards or Beckman in the business of reporting news items about his company's distributing organization. Naturally, that's what appeals to us most here at the *News*, and that's why Gerry sometimes feels we don't sufficiently recognize his talents.

But we do. We have nothing but admiration for the results he gets. Gerry goes after big game. Those two-inch items from the field which mean so much to us are just so much small change to Gerry. What he wants—and gets—is the leading article in a magazine, or the biggest story on page 1 of a newspaper. A home run or nothing.

So frequently has he contributed

such leading articles to *Electrical Merchandising*, and so highly does my friend LES MOFFATT of that magazine think of them, that Gerry is listed as a *Contributing Editor* of Moffatt's paper! That, we maintain, is going some for a publicity man.

What's more, Editor STANLEY DENNIS of *Electrical Dealer* (Stanley was once a member of our organization) invariably takes Gerry's contributions and puts them at the front of his magazine—the lead article.

To my friends Moffatt and Dennis, Gerry is Mr. GERALD P. STEDMAN, Esq. Not to brag, or anything, but we've seen Gerry in his striped shorts, have tied his white tie, awakened him out of torporific slumbers, and otherwise found him very human.

So we take great delight in cutting him down to our size when we see him. To us (personally speaking, that is) Gerry is just another publicity man, albeit a helluva good egg, and we refuse to let him put on his long beard when he's around the BNP offices.

The Ghost Behind the Rollator

Not only does Gerry get signed articles into trade magazines—and get paid for them—but he has done an exceedingly fine job of keeping the name of President HOWARD BLOOD of Norge before the public, too.

Gerry has a talk with the head man of Norge, goes back to his hotel room, and turns out a piece of copy for Mr. Blood's signature that will generally make the front portion of half a dozen different business magazines.

He does the same thing for other Norge executives (prolific sonuvagun, eh wot?). But JOHNNY KNAPP, vice president in charge of sales, is his despair. On at least two occasions the writer has been with this Knapp fella on the occasion of a banquet or a meeting, when Gerry would bring him a neatly-typed speech.

Gerry had worked hours, and possibly days, on that speech. Yet Johnny would pick it up, idly thumb through it, toss it aside as if it were last

Friday's newspaper, and then get up and give a rip-snortin' extemporaneous speech which would take his audience by the ears and lead it to the feed trough.

Whereupon Gerry would go outside and tear out another handful of hair.

Well-Lit Reds

Publicity Director Beckman really has an ace-in-the-hole advantage over other publicity men when it comes to getting you to come down to the home office. His chief, POWEL CROSBY, JR., owns the Cincinnati Reds baseball team, and when Jim invites you down for something he casually adds:

"Yeah, the Cubs will be in town then, and we'll have a box seat for you out at Crosley Field."

Mr. Crosby merits the gratitude of the electrical industry for his sponsorship of night baseball. It was he who forced through the introduction of baseball-under-the-floodlights this year, and he has actively promoted this innovation ever since.

Until Mr. Crosby lighted his baseball field this spring, the San Francisco ball park was the best-lighted in the country, using 310,000 watts. Like he does everything else, Mr. Crosby made all previous lighting systems look pretty small. Crosley Field employs 958,000 watts when the Reds play at night.

Hunting Subscribers

Although *ELECTRIC REFRIGERATION NEWS* has no subscription agents in the field, a large number of distributors and field men function unofficially in that capacity—for which we are duly grateful, because these men recommend the *News* to dealers and salesmen for the simple reason that they think regular perusal of the *News* will help their business.

As a sample, R. E. HUNTING, manager of the Leonard division of E. B. Latham & Co., New York City, recently broadcast a letter reading: "Keep Posted. Get the Facts when it comes to Talking Turkey." And then a hand points down to a photo-

stat of *ELECTRIC REFRIGERATION NEWS*. In sending us the bulletin, Mr. Hunting writes:

"The contents of the enclosed bulletin letter will give you some idea of the importance we attach to statements made in your good paper. We consider such information to be invaluable not only to the manufacturer and ourselves as distributors, but likewise to the trade at large.

"You may count on us at any time to lend a hand in furthering your good efforts."

Amen Corner

In a testimonial dinner tendered him on the fiftieth anniversary of his entrance into the business publishing field, President JAMES H. MCGRAW, SR., of the McGraw-Hill Publishing Co., last week made the following pertinent remarks:

"The business paper requires a new relationship to its field different to that it bore when it was primarily a teacher. It becomes both a protagonist and a critic of its industry.

"The former role is easy; the latter one is a real job. It is necessary to differ with one's industry from time to time.

"This necessitates guarding against a bumptious editorial attitude, but at the same time sticking to one's guns.

"And here is the important point: Industries may kick about this criticism, but actually they will 'take' much more from their business papers today than formerly.

"In fact, they really want critical leadership, and the paper which refuses to supply it may escape the bricks which its more aggressive competitor gets, but it will also forfeit the real respect of its field.

"In so far as government relationship is concerned, obviously the business paper must fight its industry's battles with government.

"But it should fight these battles only when it is sure its industry's side is right. It must show its industry just what is right and what is wrong."

To which we should like to add an humble "Amen!"

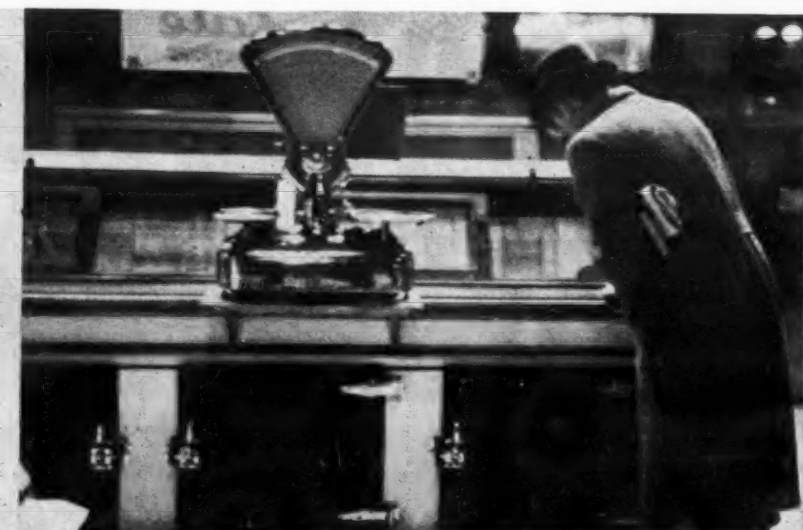
Summer Is Here—and It's a Busy Season for Salesmen, Distributors and the Editor's Camera



(1 and 2) Thomas Coyle, R & H Chemicals Department (Du Pont), discovers how the editor covers so much territory in getting news. (3) Ben Allen, G-E field man, says it's comfortable, too.

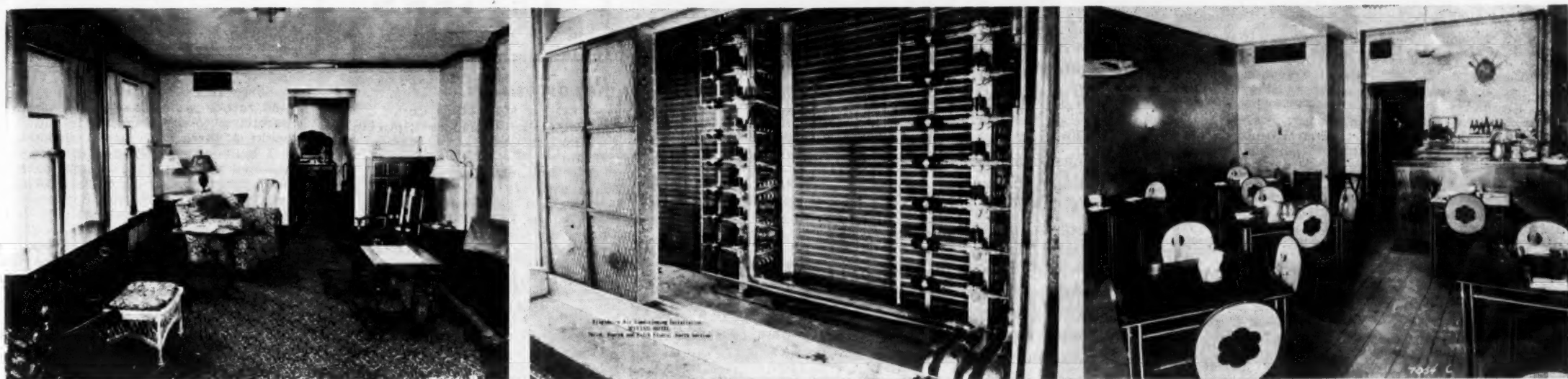


"... And then I said to her, 'Mrs. Smith, you need this refrigerator in your kitchen'..." Salesmen get together in a round table conference, while one of them relates how he closed that sale.



(1) "Here's the one we want..." and another Monitor Top goes from Caswell's, Inc., into a Detroit home. (2) A merchant pictures added profits with a new Conditioned Air case. (3) Syd Caswell.

Middle-Western Hotel to Combat Summer Slumps with Complete Air Conditioning



Installation of Frigidaire air-conditioning equipment in the Maytag Hotel at Newton, Iowa, has been completed. All rooms except the public lounge are conditioned. (1) Living room of a deluxe suite with grille at the end of the room. (2) North section of plenum chamber showing filters, coils, and expansion valves. (3) Tap room with cooling units concealed behind grilles.

Maytag Hotel System Starts Operating

(Concluded from Page 1, Column 3)

the ballroom with space for 450 persons, also are completely conditioned. When Mr. Maytag early this year placed the order for the air-conditioning system, the general consensus of opinion seemed to make out that he was doing it just to be progressive and "different," and that cost meant nothing to him.

But E. W. Zeug, president and manager of the Maytag Hotel Co., declares that such was not the case. Faced with the usual summer slump that befalls hotels in hot weather, Mr. Maytag considered air conditioning as a means of keeping the hotel and its services as well patronized in summer as in winter.

Mr. Zeug states that the recognition of the comfort conditions in Hotel Maytag has spread to the point where commercial travelers who normally would work out of some other city, are changing their routes so they may at least stay overnight in Newton, if not making arrangements to work out of the city in all directions for several days or a week.

Rates are being upped for the summer by only 50 cents or a dollar, according to Mr. Zeug.

The Frigidaire system has a capacity of 100 tons, the ballroom alone requiring 30 tons of refrigeration.

Two compressor installations were made in the basement to handle the public rooms. Five other compressors were placed on the roof of the hotel in newly constructed penthouses that shelter compressors, filters, and blowers.

In addition, a spray tower 30 ft. square by 12 ft. high with a capacity of 450 gal. of water a minute was built to cut down consumption of city water necessary for the operation of the condensing units.

Ducts from the room units were run down through the closets of the suites and room, and grille openings cut into the walls near the closets. Grilles to permit free flow of air out of the rooms were cut a few inches above the floor in the doors opening into the corridors.

At intervals in the corridors, return grille openings were installed to permit the warm air to push its way back to the recirculation chambers above.

Filters on the roof cleanse the air of dust, dirt, and pollen, and intakes for the addition of fresh air are so arranged that odors and smoke are automatically expelled.

Motors which power the refrigeration compressors are installed in such a way that 18 automatic starters control them. These are interlocked so the compressors start up consecutively to prevent an unusual load on the power lines.

A half-dozen push buttons with colored indicator lights back of Mr. Zeug's desk in his office on the main floor of the hotel control the starting and stopping of the system. Once started, the system functions automatically, governing itself in such a way that proper temperature and

humidity conditions are maintained in the sections served.

To install a duct system in the nine-year-old, five-story brick hotel building was a job of no mean proportions. Places for the ducts, blowers, compressors, coils, etc., had to be found. The entire installation had to be made with a minimum of interference with the normal operation of the hotel and its permanent and transient guests.

"The air-conditioning engineers, installation men, electricians, and carpenters arranged their work so well," Mr. Zeug said, "that we lost the sale of only one \$1.75 room for one night."

York to Condition Air On 6 Floors of Govt. Building

(Concluded from Page 1, Column 3)

sun on the roof, was air conditioned by York last year.

According to terms of the contract, part of the installation must be finished and operating in time to give some of the building's occupants the benefits of air conditioning this summer. Most of the installation work in offices is being done at night, to avoid interference with the numerous governmental activities which are carried on in the interior building.

The mechanical equipment includes a refrigerating system with a capacity of 1,000 tons of refrigeration, the air-conditioning units for 81 zones into which the building has been divided, and a ventilating system which will circulate 500,000 c.f.m. to the various offices.

Ducts to distribute this tremendous volume of air are being installed in the corridors of the building, with a unique method of concealment which will harmonize with the existing decorative plan.

With the completion of this installation, which was undertaken as part of the Administration's modernization program, York will have installed over 6,500 tons of refrigeration for the air-conditioning of various government buildings in Washington.

Refrigeration Show Marked Starting of Conditioner

HOUSTON, Tex.—Loew's State Theater here recently sponsored a refrigeration show in connection with which Houston refrigerator merchants displayed 1935 refrigerator models in the lobby of the theater. The show marked the formal opening of Loew's \$100,000 cooling system.

Exhibits and exhibitors included:

Kelvinator, Straus-Bodenheimer & Co., distributor; Frigidaire, Cox & Blackburn, distributor; Crosley, Readers Wholesale Distributors; Coldspot, Sears, Roebuck & Co., General Electric, Edmundson Refrigeration Corp., distributor; Gibson, Crumacker Distributing Corp.; Westinghouse, Houston Lighting & Power Co., distributor; Grunow, Southern Equipment Co., distributor.

Michigan Railroads To Be Conditioned

DETROIT—By midsummer of this year all crack trains operating in and out of Detroit will have been air conditioned and the railroads will have invested \$2,500,000 in air-conditioning equipment in this area.

The Michigan Central Railroad will place 46 additional air-conditioned cars in operation this year, bringing the total to 97. Those not incorporated in the crack trains are to be distributed among other trains.

The following Michigan Central trains are fully air-conditioned: Wol-

verine-Detroit, Detroit, Wolverine west-bound, Motor City Special, and Twilight Limited. Most of the equipment in the North Shore Limited, Trans-Atlantic Limited and the Michigan Limited is air-conditioned.

The Pennsylvania Railroad program includes air conditioning for the New Yorker and Pennsylvania Limited eastbound, and Pennsylvania Limited and Detroit Express from the east. In the Detroit-Chicago service, the Mid-City Express and the Detroit Arrow, in each direction, and trains Nos. 52 and 135 will have air-conditioned equipment. The Red Arrow, Pennsylvania railroad's deluxe train between Detroit, New York, and Washington, has been conditioned for some time. The Sportsman, Pere Marquette-

Chesapeake & Ohio train to Virginia, the Pere Marquette-Baltimore & Ohio Ambassador to Philadelphia and Washington, and the Great Lakes Limited to Cincinnati are already air conditioned. Air-conditioned sleepers are to be put on the Chicago-Grand Rapids and Chicago-Muskegon night trains during the summer months. The Pere Marquette's summer resort trains will be pre-cooled again this summer.

The Wabash announced air conditioning of 26 cars—12 sleeper, cafe, parlor, lounge, observation, and chair cars—to be used in eight trains.

The Grand Trunk Railroad is adding two air-conditioned diners to its equipment and will pre-cool all sleeping cars on its Chicago-Detroit and Chicago-Port Huron trains.

KRAMER

Commercial Evaporators

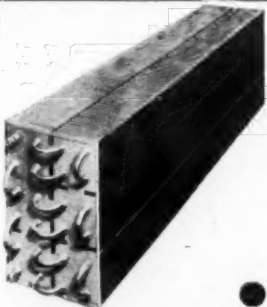
in 3" - 2 1/2" - 2" - 1 3/4" - 1 1/2" & 1 1/4"

Tube center built to any overall sizes and capacities

(Do you have our Commercial Evaporator Catalog with this information?)

TRENTON AUTO RADIATOR WORKS

Main Offices and Factory, TRENTON, NEW JERSEY
NEW YORK: 210-212 West 65th Street
PITTSBURGH: 5114 Liberty Avenue



See our ad on page 13

ELECTRIC REFRIGERATION NEWS

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VOL. 15, No. 8, SERIAL NO. 326, JUNE 19, 1935

Ice Industry Shows Signs of Awakening

BETWEEN worrying over the discouraging weather and getting hot-and-bothered over competition within the industry, manufacturers and distributors of electric refrigerators haven't really had time to notice that the ice refrigerator business has had a rebirth, and that competition from this source is threatening to cut into the annual total of unit sales of household electric refrigerators.

Dealers have noticed this renewed activity, however, and many of them are wondering what to do about it. Prospects are beginning to ask them pertinent—and impertinent—questions about dehydration of foods, annual operating costs, cabinet odors, and other points which obviously have been brought up by ice men.

That operating a good refrigerator is demonstrably cheaper than using ice, that dehydration of foods is no longer a problem, and that cabinet sanitation is fully as simple with electric refrigeration as with ice, are arguments that are really beside the point—which is that these questions are being raised.

The attack by the ice interests is coming from two directions: (1) organized ice refrigeration bureaus in various cities, and (2) stylish, soundly constructed ice refrigerators (not boxes) which hold satisfactory temperatures and use comparatively small quantities of ice.

These ice promotion bureaus aggressively advertise ice refrigeration in newspapers and by throw-aways as being the best form of refrigeration. Some of this promotion sticks to the story of ice as a refrigerant, without bringing up the subject of electric refrigeration. A few misguided bureaus, however, make a direct frontal attack on electric refrigeration, drawing comparisons which are frequently unfair, making rash and unjustified statements, and assuming an altogether belligerent attitude.

But while this ice bureau promotion may be annoying, it is not nearly so serious a competitive item as the modern ice refrigerator. In the earlier days of the electric refrigeration industry the difference between ice boxes and electric refrigerators was so great that there was really no comparison. Today, however, the ice refrigerator of the better type is a job no member of the electric refrigeration industry can hold in contempt. It has beauty of appearance, is constructed of excellent materials, holds 50° temperatures over 24-hour periods, makes ice cubes, and is equipped with a variety of gadgets for the convenience of the housewife.

Although these ice refrigerators are priced much higher than old-fashioned ice boxes, there is generally enough difference between one and an electric refrigerator to make the prospect stop and think about it awhile. Moreover, ice companies are pushing hard their claim that it costs less to use modern ice refrigeration than electric.

This is a far cry from the kind of ice competition the industry used to face. A few years ago ice boxes were constructed as cheaply as possible, insulated with "Michigan air," had homely wooden exteriors, burnt up ice voraciously, and did not really give refrigeration. Ice plants were in sympathy with the production of these cheap boxes, for they used lots of ice. The coming of the electric refrigerator, however, has changed all that. At first the ice industry pooh-poohed its new rival, then it went in for large-scale hating, and at last it has done something about the situation.

Unofficial but reliable reports indicate that considerably more than 100,000 modern ice refrigerators were sold last year—practically equivalent to the number of gas refrigerators merchandised in 1934—and that this year the total will be higher. Making scurrilous remarks about the ice man won't help the situation any—and certainly isn't in keeping with the high tone the electric refrigeration industry has maintained from its very beginning—but it would be well for the industry to take cognizance of this form of competition, and cease regarding the ice man and his refrigerator as being "dead as a dodo."

In any event, the NEWS does not intend to mislead its readers by pooh-poohing the new competition. Trade papers serving the ice industry made that mistake when electric refrigeration started to make serious inroads into ice sales. Columns were filled with ridicule of the new-fangled contraption with the result that the ice companies were lulled to sleep. Observing the effects of this sedative editorial policy, the NEWS carefully refrained from entering into any argument which would "stir up the animals." It looked like a good time to "let sleeping dogs lie."

But now that the ice men have awakened of their own accord, and since the leading ice publisher is now seeking to serve the "mechanical-chemical" end of the refrigeration business, we are not averse to expressing a few opinions on the subject of "what to do about it."

Suggestion No. 1: Don't fight the new ice refrigerator. Adopt it. When electric refrigerators first came on the market, smart merchandising men advised the ice companies to sell it. A few of them did, and still do, giving their customers any kind of refrigeration desired, just as many coal companies took on an oil burner agency and put in a supply of fuel oil.

Take note of the fact that expansion of the refrigeration business must be largely in the direction of low-income homes. First cost becomes more important than ever and operating cost must be figured on a closer basis. A good ice refrigerator will probably show lower operating cost than a cheap electric unit. In trying to make the electric machine cheap enough to attract the low-income market, it may easily be made too cheap.

Keep in mind that low-income families are not all small-size families by any means and that a small cabinet is not the answer to their food storage problem. A large percentage of these homes need a big refrigerator. In such homes the kitchen is truly the most important room in the house. Feeding the family is the great big problem.

Suggestion No. 2: (This one is offered free to manufacturers. Take it or leave it.) Why not design a convertible refrigerator especially for the low-income, big family market? Sell the cabinet first—a big one and a good one. After that is paid for, sell the mechanical unit. Take off the lid, lift out the ice holder, and set the machine in its place. Let Nema standardize the size of the opening for this convertible feature. Thus the customer will know in advance that any make of machine may be selected later to fit the cabinet.

Suggestion No. 3: If you do not look with favor upon the above suggestions, then think up some bigger and better ones. The NEWS seldom attempts to advise the industry. We have been content to look on and report what happens. And if the ice box business grows, you can depend upon it that the NEWS will report the facts about it.

LETTERS

Repossessions

Mace-Ryer Co.
Jewelers—Clothiers—Opticians
1120-1122 Grand Ave., Kansas City
Editor:

We are subscribers to your magazine and are working at present on the return goods problem.

Will you kindly let us know if you have any information on merchandise returns of retail refrigerator sales. We are interested in percentage to net sales, seasonal variations, etc.

If there is any charge we would be willing, of course, to pay it.

W. L. WILSON, JR.,
Auditor.

Answer: Two of the largest time-payment financing concerns in the country report that less than 2 per cent of all electric refrigerators sold on time payments must be repossessed.

A refrigerator, they find, is something which friends, neighbors, and relatives all see when it is installed, and to have it taken away is a blow to family pride. This, in addition to the convenience and economy of electric refrigeration, is influential in causing buyers to go to considerable lengths to keep an electric refrigerator once the purchase is made.

Most successful dealers require a bona fide signed order to signify the sale of an electric refrigerator and the matter of completing the contract is therefore largely one of collecting the monthly payments according to the definite schedule agreed to by the purchaser. This procedure naturally has the effect of preventing a return of the unit for any trivial reason.

Also, because of the size of the transaction and the considerable amount of negotiation usually involved in the sale, the conditions are scarcely comparable with ordinary over-the-counter purchases.

The troubles which department stores have with the return goods problem are probably due largely to the fact that their entire merchandising program is designed to encourage the customer to "charge and send" freely.

One of the psychological advantages of a certain amount of "ceremony" when the customer puts his name on the dotted line is that it gives an air of finality to the transaction.

It is for such reasons that executives who are schooled in specialty selling methods always look with disfavor on any scheme designed to short circuit sales effort. They feel that any plan which eliminates the formal signed order and the substantial down payment is sure to result in weak selling. In other words, they do not consider that the sale has been made unless the goods stay sold.

How Do You Do It?

Dry-Zero Corp.
Merchandise Mart, Chicago

Editor:

You must be a sleight of hand artist or your candid camera must be in the form of one of your waistcoat buttons. I'll be darned if I ever saw or heard it while next to you at your desk, but the evidence at the bottom of page 4 of the June 5 issue of ELECTRIC REFRIGERATION NEWS seems to prove the camera was there.

My only quarrel with the strip is that I thought I had more hair on top, and that I did not talk of a "moisture-proof cabinet" for if I had I would have been guilty of "hoovey"—there ain't no such thing as a moisture-proof cabinet (statement of fact not of opinion).

You were so darn busy with your disappearing "mechanical eye" that you overlooked a marvelous opportunity, as I was indicating to you how to build a refrigerator cabinet which would dispose of the moisture that gets in and leave the insulation bone-dry for at least the next 25 years. "Pearls of wisdom," and you know what happens to them!

But, after all, how the devil do you do it?

HARVEY B. LINDSAY,
President.

"I have found a part of one of the NEWS for March 13, 1935, it says drop a quarter in the slot and get all the dope and data on all different makes of electric refrigerators. That is the one magazine I have been looking for, for years. Put my name on your subscription list for the NEWS for since I do not know the subscription rates, I am asking you to mail me a statement for one year."—W. B. McKnight, Sutter Sales & Service, Ste. Genevieve, Mo.

"Please renew our subscription for one year to ELECTRIC REFRIGERATION NEWS. We found ourselves lost in the last month and a half that we have been without the NEWS, so we would appreciate your starting our order with the next issue."—M. Greenberg, Northwest Refrigeration Service & Supply Co., 4218 Lincoln Ave., Chicago.

Industry Should Solve Own Problems—Donovan

Air Conditioning Department
General Electric Co.
570 Lexington Ave.
New York, N. Y.

Editor:

Sorry that absence from the office, and rather rapid travel, prevented my receiving your telegram in time to make a wired reply seem advisable.

I believe that industry should solve its own problems. I do not think that the Constitution should be changed at this time, I believe that the recent Supreme Court decisions will have little or no effect upon the air-conditioning industry, since such expressions of opinion as I have been able to gather, in line with our own thoughts, indicate that no changes are contemplated in operating procedure, either as to hours of labor, or rates of pay.

Fair trade practices, in my opinion, will only be secured by manufacturer cooperation.

The above are outlined as expressing my personal opinions.

J. J. DONOVAN, Manager,
Air Conditioning Department.

Must Have Service Lessons

309 So. 2nd Ave.
Brighton, Colorado

Editor:

Please find enclosed a Post Office money order for which you will please enter my subscription to your weekly ELECTRIC REFRIGERATION NEWS.

I also wish to ask here at this time, may I request you to start my subscription with your issue of April 24? Or the issue in which the series of articles on the principles of refrigeration began?

I have been a reader of your paper for some time, but have decided since seeing these articles that I simply must have this magazine so that I may save these articles. I'm a student in the Utilities Engineering Institute and have about two-thirds completed of the course in electric refrigeration. I can plainly see where these articles and my lessons will tie together wonderfully well.

Also, please enter my order at this time for a copy of the Master Service Manual and any feature that goes with it, such as an annual appendix on late models, etc.

Wishing your magazine every success, I congratulate you upon it.

CHARLES MAJOR.

P.S.—Please grant my request as to the back numbers from April 24 issue up to current issues if it is at all possible as I am very much interested in both them and in the small service work detail panels which started in the May 1 issue."

Not Listed

Refrigeration Supplies Distributor
222 North Vermont Avenue
Los Angeles, Calif.

Editor:

Frequently in reading the ELECTRIC REFRIGERATION NEWS, I find you refer to many of our competitors as available sources for various refrigeration supplies, including complete high and low sides. Also in glancing through your 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY, I fail to find that we have been listed in any instance therein.

In view of the fact that we have been in business for a considerable length of time and are in position to supply from our inventory almost any refrigeration or air-conditioning requirement we would appreciate being listed as a distributor of this type of merchandise. We are operating strictly and absolutely wholesale.

RAY STRAHAN,
Manager.

Familiar Faces

Delaware Hospital
Wilmington, Dela.

June 11, 1935.

Editor:

The pictures of the A.S.R.E. meeting were awfully interesting to me as I saw many faces I knew, including my previous employer friend, Lester Larkin, my old teacher C. T. Baker, and many other members.

HERBERT A. C. SMITH.

Don't Let It Lapse

216 South Commonwealth Ave.
Los Angeles, Calif.

Editor:

Under no conditions allow my subscription to lapse. Here is the three dollars; pardon my delay in getting it to you. I would be, indeed, happy if I could get as great returns on the other three dollars that I spend throughout the year.

Best wishes for the continued success of your exceptionally good paper.

CHAS. J. ELLIOTT.

"Please send me sample copy of your ELECTRIC REFRIGERATION NEWS. The Virginia Gas representative boosted it so highly I thought he was selling subscriptions rather than gas."—G. W. Moore, Moore Refrigeration Service, 318 E. Princeton Ave., Orlando, Fla.

Trade-In Departments Stimulate Sales of Refrigerators & Other Household Furnishings

CHICAGO—Trade-in departments, although taken on, in most cases, rather reluctantly, are proving their worth as an important source of stimulating sales, according to results of a nation-wide survey among department stores, reported to National Retail Dry Goods Association members last week by T. L. Blanke, manager of the merchandising division.

Particularly in the larger volume stores, the survey showed, trade-in departments had increased sales materially, although one-third of the stores reporting indicated that the departments had been inaugurated primarily to meet competition from other stores and specialty dealers.

In the order of their importance from a trade-in standpoint, and from the number of stores handling them, the types of merchandise commonly accepted as trade-ins are:

Radios, electric refrigerators, washing machines, stoves and ranges, furniture, and vacuum cleaners. Rugs, ironers, sewing machines, pianos, and other articles were also mentioned, but less importantly than the first seven.

Agree on Trade-Ins

"Aside from the point of what stores are actually doing now, there was a surprising degree of agreement as to what lines can be successfully sold with a trade-in arrangement," Mr. Blanke said.

"In the order of the frequency with which they were mentioned, these were: radios, stoves and ranges, electric washers, furniture, electric refrigerators, and ironers.

"These are all major appliances and home furnishings items. It was suggested by some stores that all merchandise suited to instalment plan selling and having low depreciation and a reasonable resale value might be included advantageously.

"As to how far the trade-in practice can safely be extended to all merchandise that is sold on the instalment, open charge account, or cash basis, the reports show that this depends upon the type of merchandise, and not upon the type of sale.

"It is interesting to note, however, that the majority of stores say it is considerably safer to extend the trade-in privilege to charge and cash customers than to instalment-purchase customers.

Restriction of Trade-Ins

"On the question of restricting trade-ins to regular priced items or permitting them on specially promoted merchandise, the consensus of opinion was that the soundest practice is to eliminate or reduce the trade-in allowance on promotions, where the markup is below normal—but this cannot always be done competitively. Among the larger stores especially, the extension of the trade-in privilege beyond the regular priced items of merchandise is favored, particularly if the trade-ins are conservatively valued.

"Some departments are more frequently requested to take merchandise in trade than others. Among these, radios, cleaners, and pianos were mentioned. Stores reported that as high as 80 or 90 per cent of their transactions in these departments involved trade-ins.

10 Per Cent Allowance

"The average allowance on a trade-in is about 10 per cent of the amount of the new sale on which the trade-in is accepted. The appraisal of the customer's goods is usually made by the department manager or the buyer. In isolated cases, this is done by special men—experienced appraisers, or salesmen trained in the work.

"The merchandise is usually appraised on the basis of its resale value, considering the cost of reconditioning that will be required and the expense of reselling. More than half the stores restrict the allowance to a definite percentage of the new sale. This percentage in individual stores ranges from 10 to 20 per cent of the new sale, but usually is not more than 10 per cent.

"To overcome possible undesirable competitive complications, three out of four stores believe it is advisable to establish locally, through agreement, a certain maximum percentage of trade-in allowances on new purchases. It was the general opinion that this percentage should vary with the amount of the sale, but not with the type of merchandise sold, and might be fixed along schedules similar to those used in the automobile industry. There is, of course, danger that under such a plan maximum percentages would soon become minimum allowances.

"Because of its lack of flexibility in considering the store's markup policy and the actual resale value of the article taken in trade, this plan has not proved altogether successful,

but it is felt that local agreements, if enforced, will work satisfactorily and will eventually be put into effect on some workable basis, particularly in the smaller and medium sized cities.

"Such trade agreements, it was thought, should be sufficiently binding to prevent their being broken under pressure of competition.

Merchandising Trade-Ins

"Merchandising of the articles taken in trade is a problem in itself. Stores are generally agreed that trade-ins should not be sold in the regular department and should be under separate management, but not many stores are likely to reach a sales volume in used goods that will justify the additional expense of separate management. A separate store for trade-ins has proved very satisfactory.

"In other stores, they have been placed in a separate department in the basement, but whether a separate building or the basement is preferable depends upon local conditions. The smaller stores also prefer to have the department located away from the regular department, and either in the basement or in a warehouse away from the store but in a good traffic spot.

"Radios are usually handled in the regular department, but furniture in particular, for sanitary reasons, should be in a separate department. Where it is not feasible to have a separate building or a separate department for used merchandise, it was suggested that only articles in presentable condition should clear through the store's regular department, and that all other items should be turned over to an outside dealer on a commission basis or an outright sale.

Allowance Governs Cost

"When the traded-in article is placed in stock, the cost price is usually controlled by the allowance given the customer. When the trade-ins are not separated from the regular department, the merchandise is retailed the same as new merchandise, to preserve the marking rate of the department.

"In some stores, if the merchandise has been purchased on too high a basis, as a result of competition, part of the cost is charged to the department which sold the new merchandise, so as to bring the price paid for the used goods down to a cost basis that would permit of the desired markup on its resale.

"Other stores consider the allowance as the cost price and endeavor to average a 25 per cent markup to cover direct expenses. Some stores include the cost of reconditioning in their cost valuation before fixing the retail selling price and calculating the markup percentage."

Wide variation in the markup received on trade-ins was indicated by the reports, the percentages ranging from 15 to 46 per cent. In those departments that were reported to be operating profitably and that were charged with at least direct expenses, the markup percentage was 35 per cent and over.

Radios were frequently handled at a loss on a markup of 15 or 20 per cent.

Higher Markup Necessary

"The general feeling among the reporting stores was that the trade-in department should operate on a markup the same or higher than that of the corresponding new merchandise department, to take care of the expense of reconditioning and to allow for competition on trades.

"A certain amount of new merchandise is carried in the trade-in department by many stores, particularly those in the larger volume groups, but the presence or absence of new merchandise in the department does not appear to be a determining factor in the profitability of its operations.

"Trade-ins usually yield a turnover at least as rapid, if not more rapid than the turnover normally obtained by the store on new merchandise. When traded-in merchandise is put into good, usable condition, stores do not generally experience more difficulty in disposing of it than would be the case with new merchandise.

"A study of some of the individual reports indicates that the type of used merchandise handled does not appear to be as important a factor as the method by which the merchandise is disposed of.

"The feeling was expressed by the reporting stores that there is a good demand for used merchandise if the goods offered for sale are at attractive prices and if the store has a sufficient quantity for promotions. Giving the department manager free rein in the setting of selling prices was considered essential for prompt disposal.

"Advertisements in the classified sections of newspapers have been found most helpful, particularly in

stores of small and medium size, in moving trade-ins, and stores concentrate from one-half to three-quarters of the trade-in department's advertising in these columns.

"Sometimes the merchandise is listed as 'warehouse stock' in the classified columns. In some stores, trade-in items are included in regular clearance events, or are advertised in 'month-end,' 'warehouse closeout,' and 'cleanup' sales.

"Three-quarters of the department stores responding to our questionnaire believe in the policy of accepting trade-ins as a merchandising operation, within certain limitations," Mr. Blanke said. "These limitations are frequently concerned with the correct appraisal of the merchandise taken, and the taking of articles in trade only so far as there is a definite resale market for them.

"Some stores feel that to the department store there is no real danger in taking trade-ins. On the other hand, there is more danger in losing desirable business to competitors.

"In the handling of trade-ins, it was felt by some stores that the small specialty dealer can offer larger allowances than department stores and still come out with a whole skin, as he can usually get more on the resale than the department store, and does not assume so much service responsibility.

"Complaints of serious abuse of the trade-in practice are relatively few.

"Although it was felt that trade-ins in department stores might in some cases encroach upon the sales in the lower-priced departments or in the basement, the general opinion of the reporting stores was that this was not a very serious problem, as the trade-ins are so much lower priced than the cheapest new merchandise carried that they appeal to a class of customers who would not ordinarily be prospects for the store's regular departments."



Get in on this Big New Market

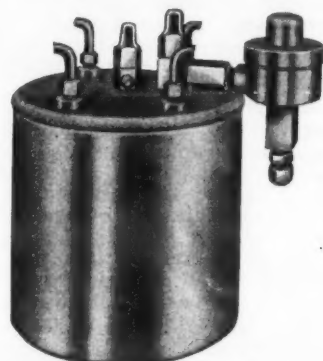
GET the significance of the permanent beer licenses which are now being issued! There is a lot of profitable refrigeration business for you if you will only take hold.

Issuance of permanent licenses means stabilized business and responsible financial investment. It also means elimination of the shoe-string dispenser and his kind.

Those dispensers who remain in business are ready to discuss mechanical cooling—they are receptive. The majority believe it is good business to install the necessary cooling equipment but they want to be shown.

What a chance for you with Temprite, for, not only can you demonstrate instantaneous cooling, foam control, temperature control, and economy of operation, but you can prove that the necessary Temprite cooling equipment can be paid for out of the additional profits earned in less than one year from the date of installation.

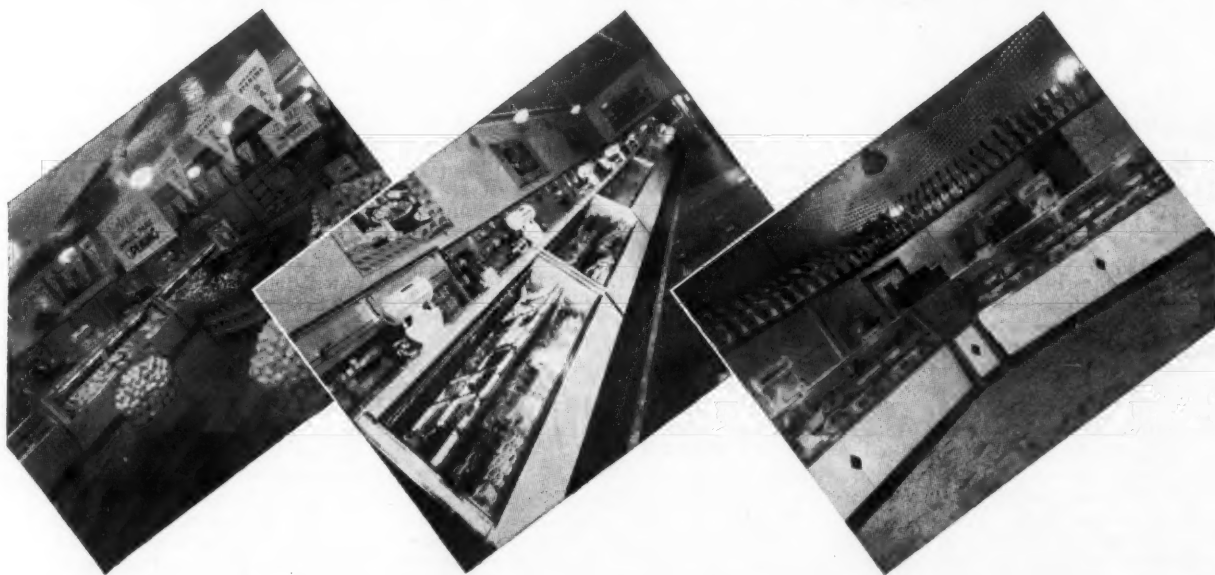
Don't spoil the chance of a lifetime by trying to sell inadequate or untried equipment. Sell Temprite—the world's outstanding beer cooler and thereby satisfy the customer who relies on your advice and, at the same time, protect your own refrigeration reputation.



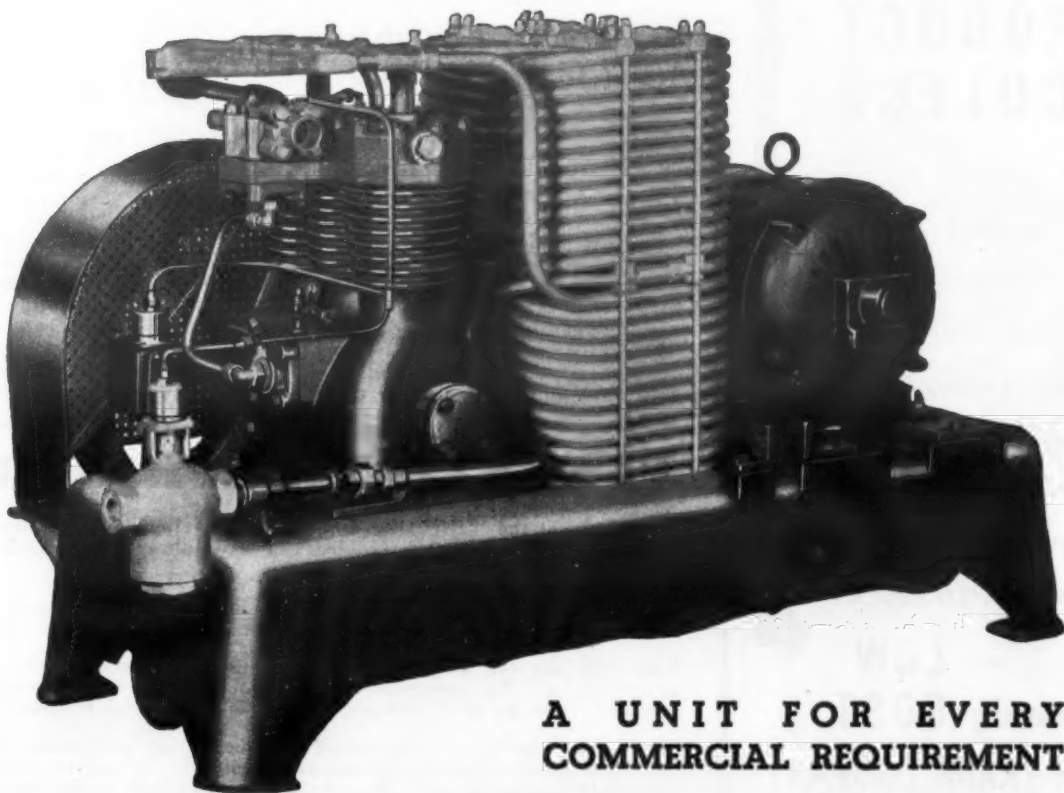
TEMPRITE PRODUCTS CORPORATION
1349 EAST MILWAUKEE AVENUE
DETROIT, MICHIGAN

ORIGINATORS OF INSTANTANEOUS LIQUID COOLING DEVICES

"BEHIND THE SCENES"



IN FOOD PRESERVATION IS THE CONDENSING UNIT



A UNIT FOR EVERY COMMERCIAL REQUIREMENT

UNIVERSAL COOLER CORPORATION

DETROIT, MICHIGAN

BRANTFORD, ONTARIO

12 YEARS OF LEADERSHIP IN SUPPLYING COMMERCIAL REFRIGERATION TO THE TRADE

COMMERCIAL REFRIGERATION

Display Case Will Show Select Dishes In New Detroit Club

DETROIT—When Cliff Bell, well-known Detroit night club impresario, opens his new club in the downtown district, one of its features will be the novel refrigerators which have been installed.

Patrons on entering the cafe will be able to choose any select dishes that strike their fancy by inspecting them in an 8-ft. refrigerated display case which Mr. Bell has installed near the front of the cafe.

Behind the bar there has been installed a wine service refrigerator, with two refrigerated compartments, and one non-refrigerated compartment. Refrigerant lines which run through the non-refrigerated compartment are insulated.

This wine refrigerator will enable patrons to select their favorite vintages at the bar, and to assure themselves that they are getting the "genuine article."

Other equipment refrigerated by the units installed by Refrigeration Sales Corp., Frigidaire commercial representative in this territory, include two 8x12-ft. coolers (one for foodstuffs, the other for wines and liquors) and a 7x6-ft. reach-in refrigerator for the kitchen.

Forced convection cooling units are used in the storage coolers.

All of the equipment, with the exception of the 8-ft. display case which has its own 1/2-hp. unit, are hooked up to a 1 1/2-hp. Frigidaire commercial condensing unit. Operation of the machine is on a single back-pressure, the coils for the various refrigerators being balanced out to make this possible.

Special 80-Ft Cabinet Is Built for Biologicals

SALT LAKE CITY—To protect \$10,000 worth of biologicals, Kelvinator refrigeration has been installed in the prescription pharmacy of the International Supply House for Parke-Davis & Co. Installation was made by E. N. Dean, service and installation manager of the Flint Distributing Co., Kelvinator distributor for this territory.

The cabinet has 80 cu. ft. of storage space for biologicals and was made by the Salt Lake Cabinet and Fixture Co. It has three inches of insulation to maintain constant low temperatures. Kelvinator equipment consists of a B333-H condensing unit, an IM-7 ice making unit, and a X0163 low temperature cooling unit.

TRANE

PRODUCT COOLERS

for

FUR STORAGE

FRUIT STORAGE

PRODUCE STORAGE

CANDY MAKING

WALK-IN BOXES

COLD STORAGE ROOMS

DAIRY COOLING

REFRIGERATED TRUCKS

at **LOW COST**

THE TRANE COMPANY
LA CROSSE, WISCONSIN

HEATING COOLING DRYING
COILS HUMIDIFYING
INDUSTRIAL AIR CONDITIONING
UNIT HEATERS
COMMERCIAL AIR CONDITIONING

Sales Manager



T. J. NEWCOMB

Newcomb to Manage Commercial Sales

MANSFIELD—T. J. Newcomb has been named manager of commercial refrigeration sales for Westinghouse Electric & Mfg. Co. Mr. Newcomb's headquarters are at Mansfield.

Previous to his new appointment, Mr. Newcomb served the Westinghouse company as eastern manager of refrigeration sales with headquarters at the New York office, and prior to that time as public utility supervisor of the Westinghouse refrigeration department.

The increasing importance of special applications and the necessity for direct contact with larger interests requiring the services of an experienced executive specialist in commercial refrigeration have led to the appointment of H. M. Wible, who formerly was the commercial refrigeration sales manager, states P. Y. Danley, manager of the Westinghouse refrigeration department.

Mentley Heads Sales of Frosted Food Corp.

NEW YORK CITY—George L. Mentley is the new sales manager of the institutional division of Frosted Food Sales Corp., division of General Foods Corp. Mr. Mentley succeeds I. S. Randall, who has resigned to become general sales manager of Continental Distilling Corp., Philadelphia.

For the eight years prior to joining the General Foods Corp., Mr. Mentley was Curtiss-Wright's eastern commercial sales manager. Before that time he was assistant sales manager of the Jacob Dold Packing Co.

Earle Gardner, Purchasing Agent for York, Dies

YORK, Pa.—Earle W. Gardner, for many years purchasing agent of the York Ice Machinery Corp., died Thursday, May 23, after a six-months' illness. He was 62 years old.

Mr. Gardner came to York organization in 1897, and served as purchasing agent from that time until his death. He was a close associate of the late Thomas Shipley, under whose management the company grew to be one of the leading manufacturers of refrigerating machinery.

Fruehauf Trailer Co. Designs Brine Unit

DETROIT—A brine-cooling system for use in trailer bodies has been recently introduced by the Fruehauf Trailer Co. of this city.

The unit is not thermostatically controlled, ice and salt used for a refrigerant must be replenished regularly, and other refinements have been omitted to keep first cost down.

By means of a brine tank and a pump, driven by a four cycle, air-cooled, 1 hp. gasoline motor, brine is circulated through copper pipes, which run the full length of the body on either side of the roof. Aluminum radiating fins around the pipes spread the cool air evenly through the body.

The motor is in a compartment at the front and is accessible from the outside through a small door. The brine tank is in the extreme front interior, the pipes extending back to the rear.

Before putting the new design into production, a test trip was made from Denver to Chicago. An insulated Fruehauf trailer, equipped with the refrigerating unit, left Denver at noon. Temperature of the interior when sealed was 46° F.

Approximately three days later, the seals were broken in Chicago, and Fruehauf officials claim the interior temperature had fallen 17° to 29° F., against an outside reading of 80°. Maximum product temperature was 31° F. and minimum 20°.

New Insulating Material For Refrigerators Being Used in Germany

BERLIN, Germany—A new domestic heat insulating material known as "Isolafros" is being introduced to the German refrigeration industry, reports C. T. Zawadzki, American vice consul here. The new medium is to be used in place of imported cork as a basic material for heat insulation.

The new medium consists of a chemically-hardened foamy substance, a so-called cellular glue. Thorough tests of the product have been made by the Research Institute for Heat Insulation at Munich.

During production, the new insulating material is at first plastically soft and can be poured; it binds, when poured into forms, and turns, after a drying period, into a board-like substance which may be worked with woodworking tools, such as knives, saws, drills, etc.

Through the use of binding mediums, it can be turned into formed pieces, containers, etc. With appropriate treatment, the plates can be bent, permitting the production of round containers, insert insulators, pipe covers, and mantles, etc.

Like other insulating mediums of organic derivation, this substance possesses a foamlike structure, as a result of innumerable small cells, closely lying upon each other, preventing a circulation of air or transportation of heat. The size of the individual cells vary between 0.3 and 0.05 millimeters; wall thickness amounts to approximately 0.01 millimeter.

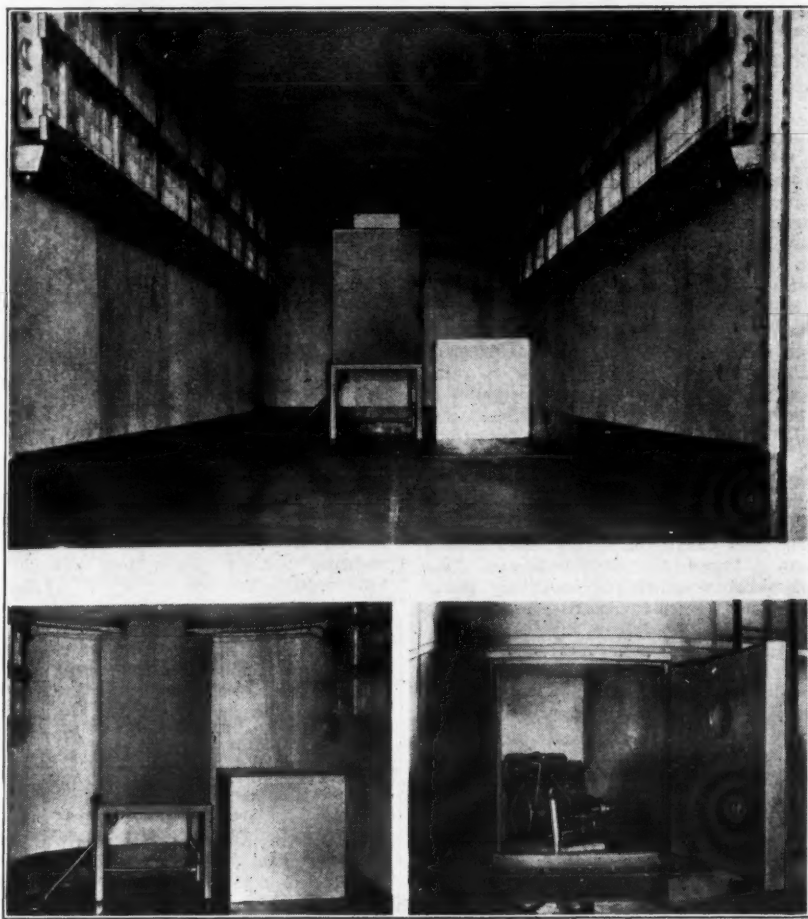
The crude insulating boards or mediums are first coated with a waterproof preparation and then covered with aluminum foil or sheets so that any moisture that may penetrate will not destroy the structure or diminish the insulating value.

Springer Is St. Louis Dealer For Frigidaire Line

ST. LOUIS—The Springer Electric Co. has been appointed Frigidaire dealer here, succeeding the Grebe Motor Co., now dealing solely in automobile sales and service.

W. C. Springer, owner of the Springer Electric Co., was formerly connected with a General Electric distributor here. Mr. Springer states he intends to concentrate on refrigeration for the next three months but may install a radio sales division after the summer season is over.

Brine System for Trailers



Fruehauf Trailer Co. has designed this brine circulating refrigeration system for its refrigerated trailers. Top shows interior of the truck body; bottom left shows circulating system assembly in truck, and bottom right shows pump compartment (viewed from outside).

Commercial Unit Orders From Small Towns Show Increase

DETROIT—Half of the sales made so far this year of Kelvinator commercial refrigeration equipment have been made by dealers in the smaller cities and towns, according to a sales survey made by J. A. Harlan, commercial manager, Kelvinator Corp.

"The fact that 50 per cent of our greatly increased business in commercial sales so far this year have been made by the small dealer is gratifying because it shows that there is a large and diversified field for commercial equipment throughout the country," Mr. Harlan said.

"This sales record proves that there is a real opportunity for the dealer in the smaller city in handling commercial refrigeration equipment."

Mr. Harlan also stated that recent inquiries from many of the smaller Kelvinator dealers regarding air-conditioning equipment indicates that growing interest is being shown by the businessman, the home owner, and the professional man in self-contained air-conditioning units.

Hussmann Refrigerators Installed in Nashville

NASHVILLE—The Richland Market, local retail food store, recently remodeled its store and installed "humid-i-coiled" Hussmann-Ligonier refrigerators, manufactured by the Allied Store Utilities Co., St. Louis. The refrigerators are operated in connection with a Frigidaire FW5-G1 1/2 hp. compressor and TS20 expansion valves.

Kost Will Direct Sales In Houston Store

HOUSTON, Tex.—J. P. Kost, son of Philip Kost, president and general manager of the Kost Furniture Co. here, was recently appointed general manager of the refrigeration department of the store.

Temprite Folder Tells How New Beer Cooling Equipment Cuts Cost

DETROIT—Additional profits possible through the use of Temprite instantaneous beer coolers is the theme of a new folder just issued by Temprite Products Corp.

Loss of beer (and of profits) through incorrectly regulated temperatures is illustrated in the folder, and copy revolves about the point that proper cooling is essential both to satisfactory profits and satisfied customers.

The copy also stresses the fact that Temprite saves beer, both in the barrel and in the glass, by maintaining the liquid at one even temperature, and by cooling the beer as drawn, eliminating wastes due to its standing in the coils overnight.

Attention is also drawn to Temprite's features of foam control and automatic temperature control.

Back of the folder is devoted to a sectional cut showing the cooler's mechanical and operating principles. Arrows point out the various Temprite features.

MCCORD
Refrigeration
PRODUCTS

COMMERCIAL EVAPORATORS

DOMESTIC EVAPORATORS

CONDENSERS

METFLUX ICE TRAYS

SPIRAL FINNED TUBING

SPIRAL COPPER FINNED IRON,
STEEL OR COPPER PIPE

MCCORD RADIATOR
& MFG. CO., DETROIT

ATTENTION REFRIGERATION DEALERS

One glance at the "ONE DRAW BEER COIL" Immediately convinces you, that here is the beer cooler you have always wanted. It has everything.

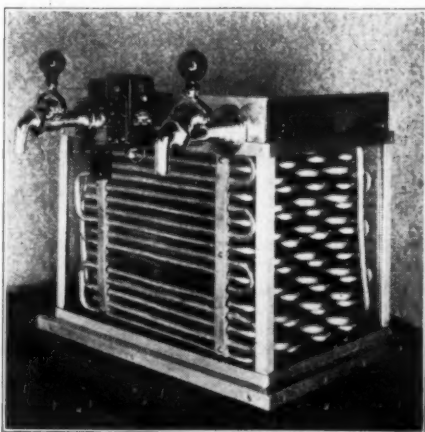
Sweeps away competition in the selling field having advantages that no other beer cooler has.

Extremely safe for both, customer and dealer. Reduces service calls to minimum. No interruption of business, even when service is required. Can be used with ice, in case of mechanical trouble.

Tremendous hold over capacity, with hours of continuous draw. Customer operated positive temperature control. It can be installed in any old dispensing unit. It controls beer under high, or low pressure, operating on 10-15 or 30 lbs., on barrel. All beer coils are genuine block tin, and, the price is right.

Write or wire for descriptive literature.

ONE DRAW BEER COIL COMPANY
435 Collinsville Ave. East St. Louis, Ill.



Grant Considers Future Market For Electrical Appliances

(Concluded from Page 1, Column 5)

ties of the Market for Electric Home Furnishings," was easily the high spot of the evening's program.

In considering the future of electrical home furnishings, Mr. Grant said, the future of the country must be taken into consideration. Four great considerations, he said, face us at this time:

1. How prosperous is this country going to be?
2. How cheap is electric current going to be in the future?
3. How good, and how cheap, are the manufacturers of electrical appliances going to be able to produce these appliances?
4. How good, as merchandisers, are department stores (and retailers generally) going to be?

Under the first question, Mr. Grant said, the prime consideration is the type of government under which business best can prosper.

Supreme Court Decision

"We have just had a decision of the Supreme Court, of utmost importance to all of us," he said. "An attempt by government to regulate private enterprise has been ruled unconstitutional, and the question has arisen whether certain principles of our Constitution should be changed in form to comply with existing conditions."

Mr. Grant then reviewed the types of government in various European countries today, and their efforts to raise the standards of living for those who came under them. A republican form of government, he concluded, serves this purpose best.

He was biting in his criticism of attempts of the existing administration which, he said, had not made any material strides toward improving conditions.

"Speaking as unbiased as I can, I cannot see where any basic changes have been made in our living conditions since 1929," Mr. Grant said.

"I cannot conceive of the wisdom of one man planning to regulate all phases of business, where the combined efforts of a number of our best men have been unable to produce efficient results economically."

More Interest in Politics

"For the first time since the Civil War," Mr. Grant said, "an amendment to the Constitution, affecting the personal liberty of all of us, is under consideration."

One result of this action, the speaker added, would be a greatly increased interest on the part of business men in governmental affairs.

"Too many of us," he said, "have been voting for our legislators without knowing anything about them, their backgrounds, or their political philosophy."

"Hereafter, when I mark a cross alongside a man's name, I'm going to know exactly what that man stands for."

In considering electric current rates of the future, Mr. Grant said, much credit was due power companies for their enterprise in building their power lines and making cheaper rates possible. Aggressiveness by the government in investigating power company rates, he said, has gone a long way in prodding these companies into lowering their charges.

Lower Electric Rates

"It is obvious," Mr. Grant said, "that there will be a lot more electricity produced in the future than has been produced in the past."

This will mean lower rates, and a more universal use of electricity by home owners everywhere, he said.

In discussing the possibility of better, lower priced electrical appliances in the future, Mr. Grant said:

"Manufacturers, in general, have shown reasonably good judgment in giving the consuming public better merchandise at lower prices. We can, I believe, safely look forward to a better product from these manufacturers, and to lower prices, consistent with improved quality."

Department stores, and merchandisers generally, will do a better selling job in the future than has been done in the past, Mr. Grant said.

Conditions, he said, are improving, and merchandising aggressiveness will improve along with them.

Better Conditions in 1936

"We can indulge in optimism concerning 1936," he said, "for conditions will be considerably better than they are this year."

Automobile production, he said, is now 30 per cent ahead of this period last year, and other lines of industry can be expected to register similar improvements.

In his talk on "Developments in Home Refrigeration," President Blood of Norge Corp. said that he had been impressed with the value of electricity and electrical appliances in raising standards of living when the tenant

homes on the farm land he purchased some months ago were being wired.

"The more we can do to bring electrical aids within the reach of those in the lower income strata, the greater service we are performing for the people of this country," he said.

A census recently taken by representatives of Norge in Detroit, Mr. Blood said, had shown definitely that a large percentage of people were planning to buy electric refrigeration this year. Sales last year of 1,400,000 units should be topped by a goodly margin this year, he declared.

Refrigeration is no longer a luxury—it has joined the list of household necessities, Mr. Blood said.

Surveys by his company revealed, he said, that, over any considerable period of time, and electric refrigeration will pay for itself in lower cost of operation, and food savings made possible by larger quantity purchases.

With figures compiled in this survey, Mr. Blood said, it is easy to convince a prospective buyer of the savings which an electric refrigerator makes possible.

Long Terms No Problem

Long terms, once a bugaboo of refrigeration merchandising, are no longer a major problem today, Mr. Blood declared. Refrigerators today are made to endure, he said, and long terms may, if necessary, be permitted without fear that service costs will eat up the profits.

Selling on extended payments has been proven sound, he added, and any method by which refrigeration and its benefits are placed within reach of the masses of people is to be commended.

One indication of the advance of refrigeration in recent days, Mr. Blood said, is the fact that premiums are no longer necessary to get people to buy. He recalled the days where everything from bicycles to a set of dishes was offered to prospective purchasers to induce them to bring a refrigerator into their homes.

"Today we are selling quality and savings, not price," he said. "Prices today are stable, indicating that, for the most part, the industry has reached a firm level."

Commenting on the recent abolition of NRA, Mr. Blood urged merchants to fight to keep the "freedom" they have won back.

New American Home

Final speaker of the evening was T. K. Quinn, whose address was concerned with "The New American Style Home."

"The curtain is being rung up on a new era in home construction," Mr. Quinn told the merchants. "We are facing the greatest industrial advancement this country has ever witnessed."

In explaining the New American Home movement, which is being sponsored by the General Electric Co., Mr. Quinn pointed out that there is in this country today a tremendous interest in home construction.

This was evidenced, he said, by the interest which architects all over the country displayed in the competition which G-E announced in connection with the housing movement. Where only a few hundred entries had been anticipated, he said, the actual list numbered high in the thousands, and the excellence of the designs was surprising to judges.

Homes Built Differently

Home building, Mr. Quinn declared, is being done much differently today than in years past.

Where formerly the exterior of the home was of prime importance, today's home construction places the emphasis on interior fittings, and makes the exterior of the house conform to these items.

"We are building homes today from the inside out—which, after all, is the way in which they should be built," Mr. Quinn said.

An electric kitchen today is a desirable, almost a necessary, part of a new home, and the comforts of air conditioning are being sought by as many people as can possibly afford them, Mr. Quinn said.

Thirty per cent of the cost of new homes now goes for modern electrical equipment, Mr. Quinn said. Thus the

largest individual item in home construction today is for electrical devices. Formerly, this was a small item.

Department stores can profitably enter into the furnishing of the new homes, he added, and a large percentage of their business in the future will come from this new home market, if stores are wide-awake enough to capitalize on the interest in construction.

When will department stores be handling ready-made homes as a regular item?

Not soon, Mr. Quinn thinks. General Electric realizes, he said, that public education must be undertaken slowly, and it is with this thought that the 10,000 new homes are being built as experiments in various parts of the country this year.

After the public has been given sufficient time to get the idea of pre-fabricated homes, and the modern housing movement, mass selling of homes may be accomplished.

It may be five years in coming—it may be even later. But come it will, Mr. Quinn believes, and he admonished stores to look to one of their major markets, "be it ever so humble—the American Home."

Buffalo Dealers Fight Service Licenses

(Concluded from Page 1, Column 2)

ordinance, sponsored by a small group of refrigeration engineers, the work of repairing and servicing electric refrigerators sold by local dealers would have been confined exclusively to highly skilled mechanics, who would have been required to pass examinations and be licensed.

Such an ordinance, retailers said, would add to their operating costs without a corresponding increase in either service to the consumer or efficiency.

1935 Refrigeration & Air Conditioning Market Data Is Off the Press

(Concluded from Page 1, Column 3)

household refrigerator sales and also average price are given for each year since the beginning of the industry. Other pages show sales by states in past years, monthly sales throughout the world, and United States sales in comparison with exports by months.

Following the household statistics are two surveys which should be of considerable interest to the household refrigeration industry. The first is the Real Property Inventory, a U. S. Government project of 1934, which surveys residential conditions in 64 American cities, and includes a record of mechanical refrigerators in use. The second is the Polk Consumer Census showing refrigeration data from the nation-wide survey being conducted by R. L. Polk & Co.

Commercial and industrial refrigeration statistics are next presented with sales of commercial machines, water coolers, ice cream cabinets, and commercial cabinets and cases given in tables and charts. Also included in this section is a chart showing quantity sales, total tonnage, and average tonnage of industrial refrigerating machines sold since 1900.

In recognition of the interest which many executives and sales managers have shown in sales of companion electrical appliances, a rather complete section has been devoted to sales records of oil burners, washing machines, electric ranges, vacuum cleaners, ironers, radios, and other miscellaneous appliances. A number of charts have been included to aid users of the book in securing a quick picture of activities in these fields. Passenger automobile production and registration figures are also given for the convenience of sales managers

interested in such records for quota setting purposes.

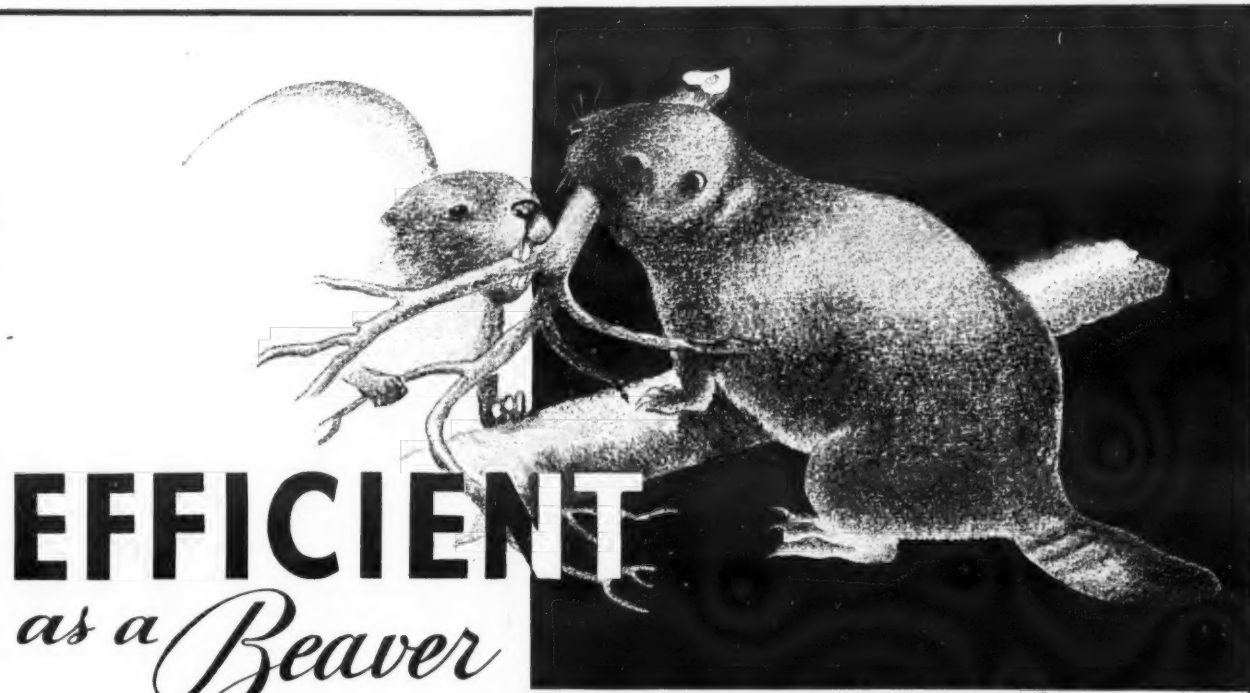
Several pages are given over to data compiled by the U. S. Government including census figures on refrigeration manufacturing activities and also the record of excise taxes paid by industry manufacturers. Exports of household and commercial equipment and parts to foreign countries and U. S. Possessions are shown for past years.

Over 75 pages are occupied by statistics furnished by the Refrigeration Division of the National Electrical Manufacturers Association (Nema) covering sales by member companies. Detailed records of sales of household and commercial refrigeration equipment are given for the years since 1928, and monthly sales of all classes of equipment are included for the past two years. Also given are monthly sales by states made by Nema concerns since 1932. The records included in this section are complete through April of this year.

Advertising expenditures by refrigeration manufacturers in national magazines are shown in detail in the section which follows the Nema statistics.

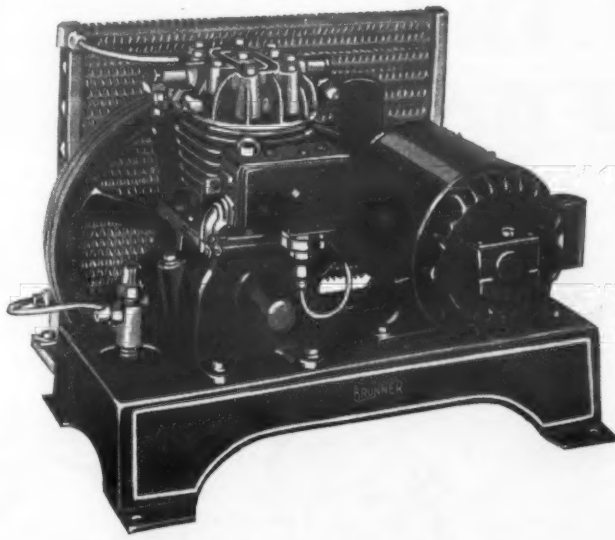
Nearly 50 pages are allotted to the record of wired homes and potential markets with information given for all cities of 2,500 population and over in the United States. Supplementing this detailed information are several pages showing wired homes, wired farms, and various other classes of electric customers in each state.

The final section of the book is occupied by a 30-page review of refrigeration industry news during 1934 which offers a lucid digest of trends and events during the past year.



EFFICIENCY... not the kind that goes great guns for a short span and then burns out—but "long winded" efficiency. That's what you get from a Brunner refrigeration unit.

To Brunner, efficiency means a long record of service with minimum dollar input. See if we're not right! Specify Brunner Compressors and Brunner Highsides on your next design or installation. Watch results. It won't take long for these quiet, improved refrigeration units to demonstrate why Brunner is "the Fastest Growing Name in the Industry"... And remember: The Brunner line is complete—units ranging from 1/6 H.P. to 15 H.P., air and water cooled, for every refrigeration need. Write for interesting new catalog. Brunner Manufacturing Company, Utica, N. Y., U. S. A.



Brunner Display Case Model—Sturdy—Quiet—Economical. Two cylinders. Air or water cooled. One-quarter and one-third H. P.

Brunner

A NAME BUILT BY 29 YEARS OF SERVICE



SERVICE

Liquid Receivers for Various Types of Systems

Editor's Note: Mr. Newcum's articles constitute a manual of information on present-day refrigeration systems which will add to the service man's knowledge of refrigeration, and which will assist him in meeting specific problems in servicing operations in the field.

The first article in the series, which was published in the April 10 issue of the News, dealt with the fundamentals of refrigeration. Inasmuch as refrigeration is really a process of the removal of heat from a given space,

the refrigeration system—cabinet, evaporator, and condensing unit—were described briefly and the operating cycle of a refrigerator was explained in detail. Also published with this article was the refrigerant pressure-temperature chart and an explanation of service gauges.

Properties which are necessary for a good refrigerant were explained in the third article which appeared in the April 24 issue of the News. The article also gave a detailed comparison of the physical properties and char-

and in some which are no longer manufactured.

The instalments published in the May 1 and May 8 issues dealt with reciprocating compressors and their component parts. The May 1 article described the compressor body assembly, housing assembly, crankshaft and connecting rod assembly, eccentric shaft and connecting rod assembly, piston and piston valve assembly, and discharge valve assemblies.

Service operations on these various compressor parts are outlined.

The May 8 article dealt with different designs of stuffing box seals, operating principles of these seals, methods of servicing seals, compressor flywheels, direct-connected units.

Rotary compressor design and operation were described in the May 29 issue. Norge and Majestic makes of rotary compressors were described in some detail. Parts in the rotary compressor assembly were explained, and methods of servicing suggested.

Discussed in the June 5 article were the care and servicing of compressor and shut-off valves, gaskets, and the construction, use, and servicing of condensing unit shut-off valves.

The June 12 instalment dealt with condensers for compression-type refrigerating systems, and outlines details in the construction and operation of this part of refrigeration systems. Various types of condenser design were described and illustrated, and suggestions were made for their care and servicing.

Liquid receivers used with air-cooled condensers are described in this week's instalment. The article discusses in detail horizontal and vertical receivers for flooded and dry systems.

Flooded & Dry Expansion System

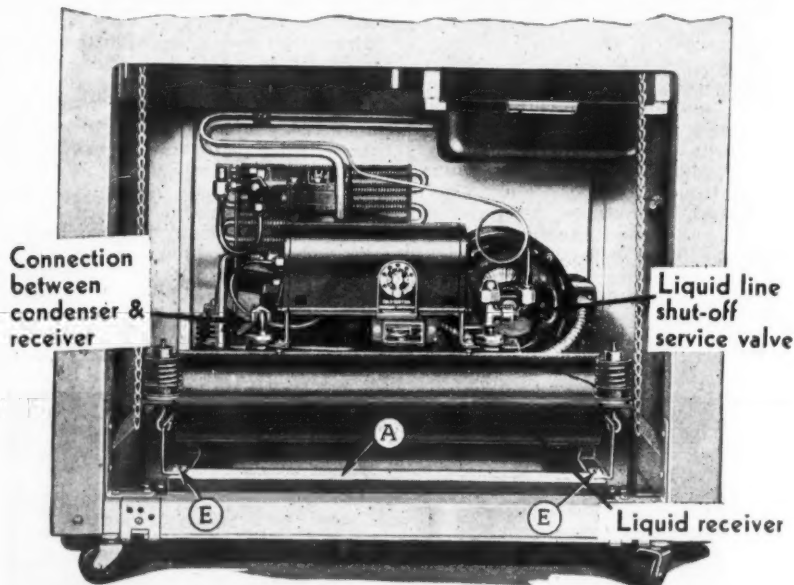


Fig. 79—Frigidaire condensing unit designed for flooded system.

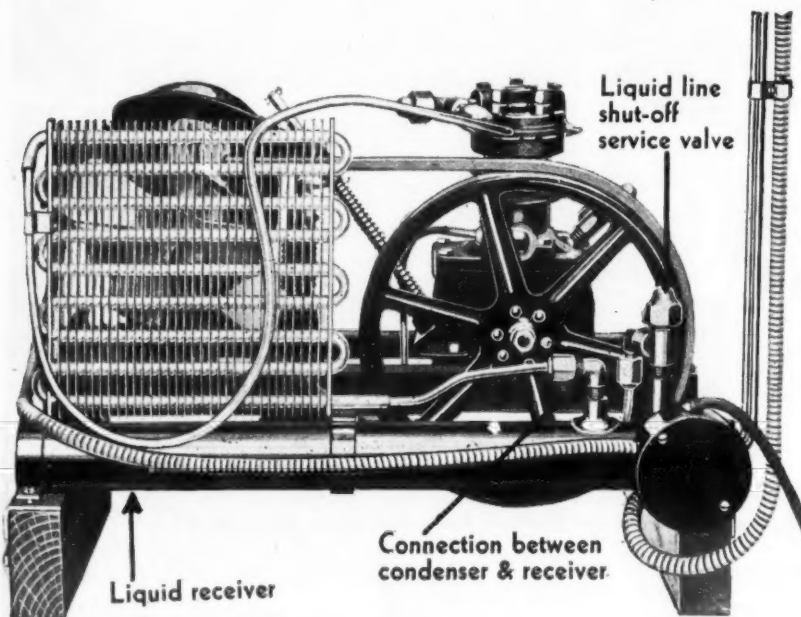


Fig. 80—Frigidaire condensing unit designed for dry expansion.

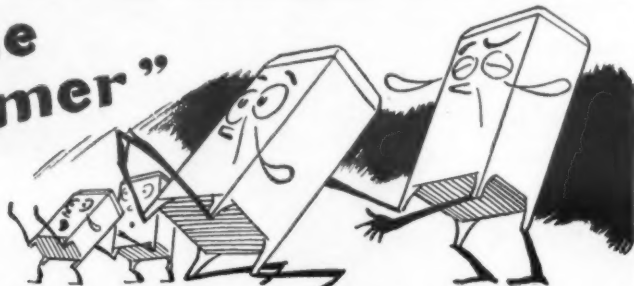
these "fundamentals" consist mainly of the terms, definitions, and physical laws which are involved when heat is transferred from one substance or space to another location.

In the second article, appearing April 17, the three principal parts of

acteristics of the following refrigerants: sulphur dioxide, methyl chloride, ethyl chloride, ammonia, and Freon.

Listed in this article are the kinds of refrigerants being used in the various household refrigerator systems which are now being manufactured,

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63. Liquid Receivers

Liquid receivers used with the air-cooled condenser are often made of copper, but most generally of steel. Their purpose is to act as a liquid receiver, receiving the liquid produced in the condenser, and storing it, so that it may be resupplied to the evaporator as needed.

Their location are generally below the condenser so that the liquid may flow by gravity from the condenser. This location, however, is not compulsory as the liquid in the condenser is under pressure and will be forced by this pressure into the receiver. The receiver may be either horizontal or vertical, depending upon the design of the condensing unit.

The size or liquid capacity of the receiver is determined by the total refrigerant charge in the system.

For use in a system employing a low side float-controlled flooded evaporator, the liquid receiver is large. An average domestic flooded evaporator has a liquid refrigerant charge of 2 to 3 lbs. The condensing unit charge on such a system would be approximately the same. The system then would have a total average charge of 5 lbs.

The receiver should be large enough to provide storage for all of this charge, should it be necessary in servicing the evaporator to pump the evaporator charge back into the receiver. Most liquid receivers have an over capacity of approximately 50 per cent, to compensate for any overcharge.

The dry-expansion evaporator often has less than 1 lb. of refrigerant in normal operation, and it will be noted that condensing units designed for this type of system have a smaller liquid receiver. The condenser capacity remains the same, for the same capacity system using the same refrigerant, regardless of the evaporator design.

In Fig. 79, a Frigidaire condensing unit designed for operation with a flooded evaporator is shown. Note the size of the liquid receiver. The condensing unit charge for this model is 3 lbs. of SO₂. The evaporator used with this condensing unit had a charge of approximately 5½ lbs. SO₂, the total charge in the system being 8½ lbs. The actual holding capacity of the liquid receiver is 14.8 lbs.

In Fig. 80, a Frigidaire condensing unit designed for operation with a dry-expansion evaporator is shown for comparison. Note the smaller liquid receiver. The refrigerant charge for this condensing unit is 1½ lbs. SO₂, which is sufficient to supply the evaporator, thus the total charge is 1½ lbs. The holding capacity of the receiver is 2.9 lbs.

Both receivers illustrated are horizontal and should be properly leveled.

Systems employing the high side float valve are usually not equipped with a separate liquid receiver, as the float chamber serves this purpose. This will be given under High Side Float Systems.

Liquid receivers of several different designs have been employed. They differ largely in the way they are mounted, which involves separate and distinct inlet and outlet connections and valve locations.

Illustrated in Fig. 81 is a typical Kelvinator condensing unit with a horizontal liquid receiver. The inlet from the condenser is in the top. The outlet through the liquid line shut-off service valve is near the bottom, so that a liquid seal is always provided when the liquid receiver is between ¼ and ¾ full of liquid.

Horizontal & Vertical Receivers

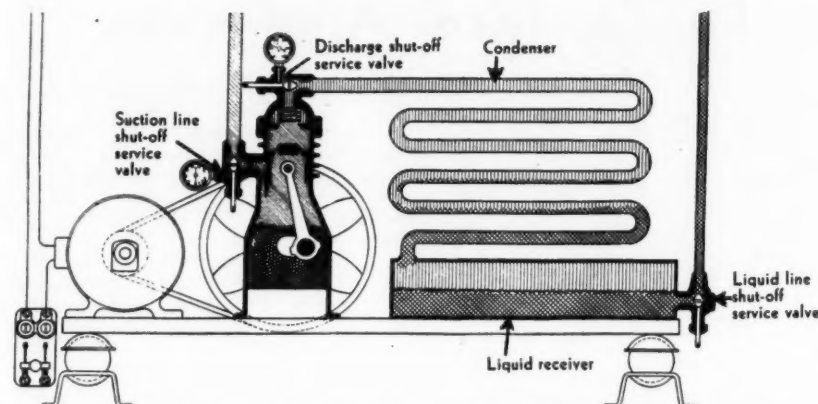


Fig. 81—Kelvinator dry expansion system with horizontal receiver.

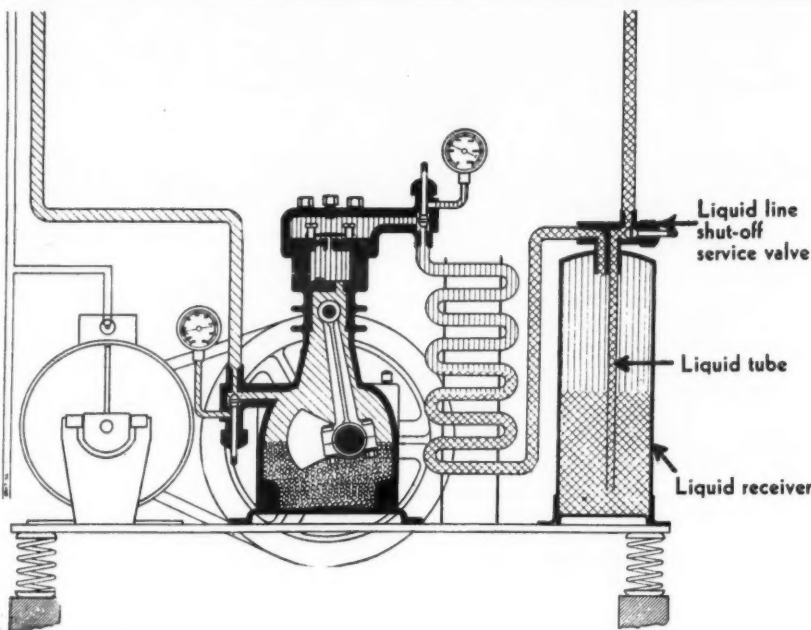
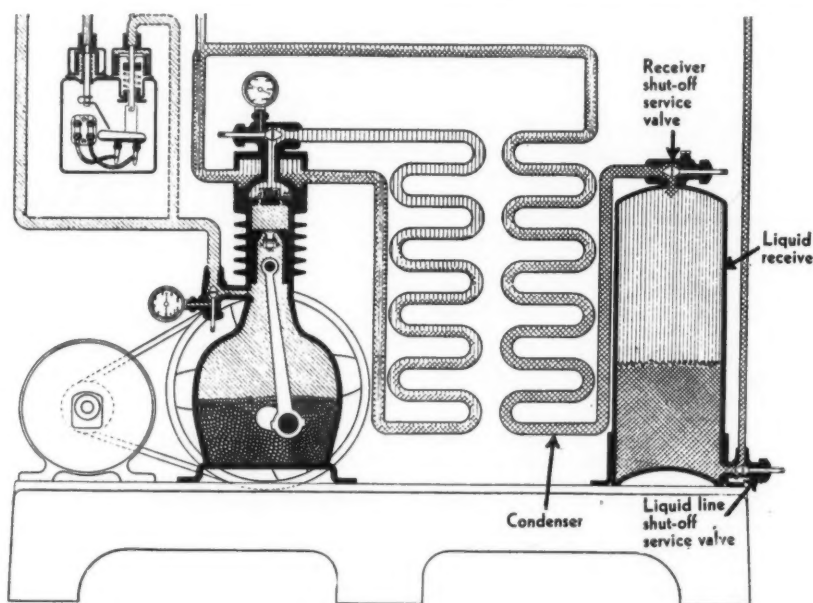


Fig. 82—Kelvinator flooded system with vertical receiver which has the inlet and outlet at the top of the receiver.



HIGH PRESSURE SO₂ LIQUID
 HIGH PRESSURE SO₂ GAS
 LOW PRESSURE SO₂ LIQUID
 LOW PRESSURE SO₂ GAS
 KELVINATOR SO₂ OIL

Fig. 83—Kelvinator flooded system with vertical receiver which has inlet at the top and outlet at the bottom.

It is possible with this system to fill the receiver full of liquid, but in doing so it only robs valuable space from the condensing area, and does not supply any more refrigerant to the evaporator. It will be remembered that when the liquid level is above the outlet any additional refrigerant added does no good in the system.

Note the location of the liquid line shut-off service valves in Figs. 79 and 80. They are on top of the horizontal receiver. The port into which the liquid line shut-off service valve is inserted is fitted with a tube which extends down into the liquid receiver to about ¾ in. from the bottom. This provides for a flow of liquid to the evaporator even though the level is low.

Fig. 82 shows a Kelvinator condensing unit with a vertical receiver. Both the inlet and outlet connections are on the top, both being through the same valve. Note that the outlet side of the valve is fitted with a tube which extends down near the bottom of the receiver.

In Fig. 83 is shown a vertical receiver with the inlet at the top through a shut-off valve and the outlet near the bottom.

Where the vertical receiver is used and the arrangement is such that the receiver is above certain parts of the condenser such as in Figs. 82 and 83 there is a possibility that a part of any air in the system may become trapped at the topmost part of the receiver, as well as the condenser. This air may be purged off at the highest point either through a valve where one is provided or by loosening the connection at this point.

The liquid line shut-off service valve

is usually of the one-way type, that is, it has only one outlet and one inlet, and does not have the gauge port. Some of the larger units have a valve between the condenser and receiver, where larger quantities of refrigerant are being handled. Such a valve is shown in Fig. 83.

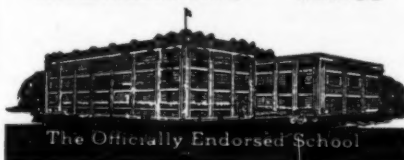
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SERVICE OPERATIONS

A SERIES OF LESSONS OUTLINED FOR THE USE OF THE SERVICE MANAGER IN INSTRUCTING BEGINNERS IN SERVICE WORK

No. 10—Attaching the Head Pressure Gauge

By K. M. Newcum

REASON:

The head pressure gauge, as the name implies, tells us the head pressure, or high pressure, on the high pressure side of the system. The head pressure gauge, as well as the compound gauge should be installed on each and every job before any attempt is made to render service, make adjustments, or repairs of any kind, for if we do not know the operating head pressure, we do not know just what is wrong, and we must correctly diagnose each and every case of trouble before we can correct it.

PROCEDURE:

A. Close the discharge shut-off valve all the way to the left. (This is its regular operating position.)

B. Remove the pipe plug from the top (in case the valve is inverted, as will be found on some makes, the plug will be on the bottom) of the discharge shut-off valve with a box wrench. Never use pliers, pipe wrenches, or similar tools.

C. Screw gauge into fitting (before screwing gauge into fitting examine it to see that the hand is resting at 0 lbs., if not, make allowances for the difference also see that the gauge will stand a pressure up to at least 150 lbs.) or opening in the discharge shut-off valve.

D. Turn discharge shut-off valve about one and one-half turns to the right or until gauge starts to register.

E. Test for leaks with oil or soap suds for methyl chloride or ammonia for sulphur dioxide.

F. Check with instructor.

Note: Always turn valve all the way to the left before removing any gauge or gauge fitting. Always replace and tighten pipe plug into opening after gauge has been removed.

If there is not sufficient space between the bottom of the cabinet and the compressor head to screw gauge into opening, insert a pipe to flare fitting of the correct size and connect gauge, as referred to in operation No. 5, article B.

Despatch Manufactures Convector-Air Oven

MINNEAPOLIS — Despatch Oven Co., manufacturer of dehydrating ovens, has just completed the development of a convector-air tempering furnace heated by gas.

This new oven incorporates in its design a patented rotary fan to drive the heated air downward with pressure and great velocity, in and around through the parts to be processed, and to effect constant recirculation.

By using the mechanical convection principle of heat transfer, the parts being processed may be heated at a much faster rate and more uniformly than with ordinary convection, conduction, or semi-radiation type furnaces, declares A. E. Grapp, president and founder of the company.

Despatch patented air ducts are used—there being two circuits—one, the recirculating circuit whereby the air is being constantly recirculated under the extreme velocity; and the other provided by the heat input circuit whereby heated air rises from the heater compartment up into the recirculating air column.

Coyne Denounces Plan To Train Apprentices

CHICAGO—Threatened revival of ancient apprenticeship training methods is denounced as "un-American" by the Coyne Electrical School here in a recent bulletin to supervisors in charge of rehabilitation work throughout the United States.

Trade school training, the bulletin states, saves considerable training time for employer and apprentice, avoiding needless repetition and giving scientific instruction.

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Shaw Joins Penn Switch As Sales Engineer

DES MOINES—Burton E. Shaw, former head of the research division of Gilbert & Barker, is now sales engineer for Penn Electric Switch Co. As research chief of Gilbert & Barker, Mr. Shaw directed the designing, testing, and development of oil dispensing equipment, etc., and handled outside sales and engineering contacts.

He has been consulting engineer for the following companies: Kelvinator Corp., New York Consolidated Gas Co., Pittsburgh Water Heater Co., Austin Heat Transference Corp., Friend Coal Co., and Sonman Shaft Coal Co.

Mr. Shaw was also an instructor in heating and ventilating for several years at New York University and New Haven College.

Other Expansion Valve Functions Explained By Joe Askin

BUFFALO—The thermostatic expansion valve, points out Joe Askin, chief engineer of Pedders Mfg. Co., is often called upon to perform other functions. For example, should there be dirt in the system, the strainer itself catches the particles and keeps them from being recirculated with the refrigerant.

Should there be moisture in the system, the valve will freeze up at the needle, restricting or stopping the flow of refrigerant. The service man can tell whether moisture has frozen at the needle point by warming up the lower portion of the valve carefully.

Moisture is likely to cause corrosion of the valve parts, especially if the refrigerant used is sulphur dioxide. The system should be dehydrated.

High head pressure as a result of air in the system may make the needle valve of the thermostatic expansion valve appear to be leaking. The service man should purge the air from the system.

Should a poor corrosive oil be used it is likely to corrode the needle or seat. Or if it is a high pour test oil, it is likely to gum, causing a sluggish action. The service man should check the oil.

The service man should remember, says Mr. Askin, that if he changes valves on account of the particular symptoms mentioned above, the new valve will only improve the condition temporarily.

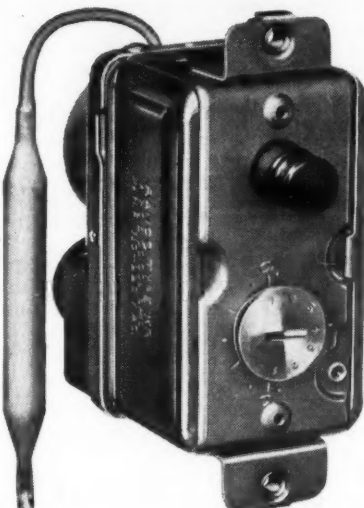
To correct the installation permanently it will be necessary to remove the dirt from the system, dehydrate the system, lower the head pressure, or change oil as the case may be.

'Service Dial' Device On New Rancostat Prevents Tampering

COLUMBUS—Just introduced by Automatic Reclosing Circuit Breaker Co. is a new type KR Rancostat with a special feature in the form of a handy "service dial."

The service dial permits the same temperature range adjustment as a type KR Rancostat that has cold control, but because of the cover plate over the service dial, or the mounting location of this Rancostat, the temperature setting may not easily be

With 'Service Dial'



A screw driver is necessary to make an adjustment of the cold control on this new Rancostat.

tampered with. One has to go out of his way to adjust the temperature range, still the means of adjustment is there when desired.

The service dial may be turned with a screw driver, a small coin, or numerous similar instruments carried by a refrigerator service man.

The design is available either with a cover plate with black background and chromium trimmings to hide the service dial when the thermostat is to be mounted where it will be exposed to observation, or without the cover plate when the mounting location prevents its observance.

McGovern Tells How Methyl Chloride 'A' Should Be Discharged

WILMINGTON, Del.—How to remove and recover methyl chloride "A" (methyl chloride to which has been added 1 per cent of Acrolein as a warning agent,) has been explained by E. W. McGovern of the R. & H. Chemicals department, E. I. du Pont de Nemours & Co.

When a charge of methyl chloride "A" is being removed from a refrigeration system, says Mr. McGovern, it may be recovered in the same manner as straight methyl chloride—by pumping the gas into a cooled cylinder.

However, it should be remembered, he points out, that the methyl chloride "A" so recovered will contain less than 1 per cent Acrolein, some of the latter remaining in the refrigeration system, and for this reason the recovered material can best be used for the replenishment of the refrigerant supply of systems which have been charged initially with full strength methyl chloride "A."

When an old charge of methyl chloride "A" is being discarded, or if a methyl chloride "A" system is being purged, the gas may be bubbled through a 5 per cent solution of sodium bisulphite in order to remove the irritant Acrolein.

The solution may be placed in a bucket or other suitable container and it is preferable that it be located outside of the building and the gas led to it from the discharge valve by means of a length of rubber tubing.

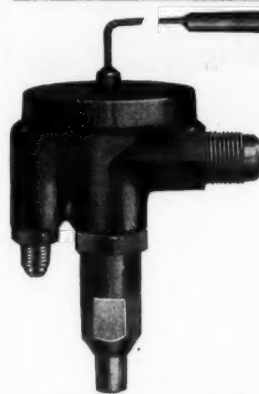
If the discharging of the gas through the solution into a room is unavoidable, adequate ventilation should be provided so that proper circulation will be created, both at the floor and higher at the room around head level.

At least one pint of the 5 per cent sodium bisulphite solution should be used for each pound of methyl chloride "A" in the system which is being discharged. The discharge valve should be cracked open slowly and the gas bubbled through the solution at a moderate rate so that it will have sufficient contact to insure removal of the Acrolein.

Service men exposed to higher concentrations of methyl chloride "A" should wear a suitable gas mask, advises Mr. McGovern. If only small quantities of the gas are present, gas-tight goggles to protect the eyes may be sufficient.

BUYER'S GUIDE

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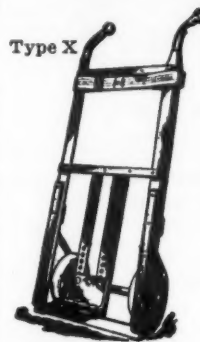
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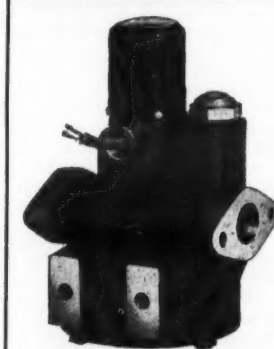
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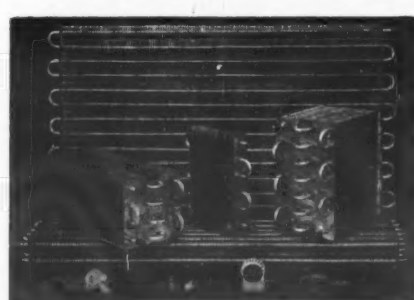
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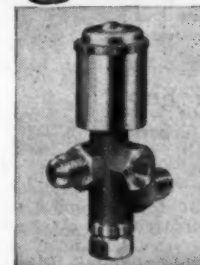
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INSTALLATION OPERATIONS

A SERIES OF LESSONS OUTLINED FOR THE USE OF THE SERVICE MANAGER IN INSTRUCTING BEGINNERS IN INSTALLATION WORK

No. 10—How to Run Tubing

By K. M. Newcum

TOOLS NEEDED:

Pliers, hammer, screw driver, and bending tools.

MATERIALS NEEDED:

One piece of 1/2-inch and 1/4-inch tubing 4 feet long.

One roll quality friction tape.

Four BX clamps or staples.

Four BX nails or small wood screws.

PROCEDURE:

1. Straighten both pieces of tubing remove all waves and bends.
2. Determine place where tubing is to be secured.
3. Unroll four pieces of friction tape from the roll, each piece to be 12 inches long.
4. Wrap one layer of friction tape around the 1/2-inch tubing, then place the 1/4-inch tubing against the taped surface on the 1/2-inch tubing and secure the two pieces of tubing together by wrapping the friction tape tightly around both tubes. Wrap each layer of tape directly over the preceding wrap, just as the tape appears on the roll.
5. If one or more bends are to be made, bend the 1/2-inch tubing with outside bending spring. Refer to Installation Operation No. 5.
6. Repeat step 4, at a distance of 18 inches from the first, tape joint. If bends are made in the tubing, tape joints should be made at 6 inches from center of the bend on both sides of the bend.
7. Tape the two pieces of tubing, as in step 4, at 18-inch intervals until entire length of tubing has been secured to the other.
8. Place tubing in position or place where the tubing is to be installed.
9. Place a BX strap over the first tape joint on the tubing, and secure it to the wall with a BX nail or small wood screw. Screws are preferred. Repeat this by applying a BX strap over each tape joint and securing it to the wall with a nail or screw.
10. The tubing should be perfectly straight, void of waves or kinks.
11. Check with instructor.

PATENTS

Issued June 4, 1935

2,003,310. REFRIGERATION. Fred D. Rexwinkle, Whiting, Ind., assignor to Standard Oil Co., Chicago, Ill., a corporation of Indiana. Application June 4, 1932. Serial No. 615,396. 11 Claims. (Cl. 62-179.)

1. In an ammonia absorption refrigeration process, the step comprising absorbing ammonia vapors at sub-atmospheric pressures in a fused metal salt consisting of calcium nitrate.

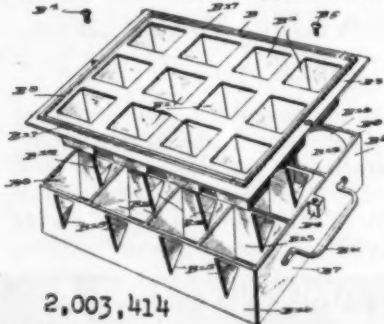
2,003,380. FLOAT OPERATED VALVE. Frank J. Masterson, Brooklyn, N. Y. Application June 25, 1931. Serial No. 546,764. 9 Claims. (Cl. 137-104.)

1. In a ball cock of the class described comprising a liquid controlling member, a float, and a connecting member to stop the flow of liquid when the float reaches a definite position, and a pinless, multiple point fulcrum for said connecting member, said connecting member operating on one point of said fulcrum to close off liquid flow and on a different point to open the liquid controlling member, said connecting member being free to rotate about the longitudinal axis, said connecting member being unsecured at the fulcrum point, said connecting member being attached to and pivoted in said valve member.

2,003,411. REFRIGERATION APPARATUS AND METHOD. Henry Elmer Willse, New York, N. Y. Application Sept. 18, 1927. Serial No. 222,515. 30 Claims. (Cl. 62-120.5.)

13. A refrigerating apparatus of the type that includes a still-absorber comprising a conduit leading to said still-absorber and means for controlling the flow of liquid through said conduit toward said still-absorber, said means being arranged to automatically operate to shut off the flow of liquid through said conduit when the specific gravity of the liquid in said conduit reaches a predetermined value.

2,003,414. EVAPORATOR FOR REFRIGERATING SYSTEMS. Edmund E. Allyn, Cleveland, Ohio. Original application Dec.



2,003,414

24, 1931. Serial No. 583,061. Divided and this application Sept. 30, 1933. Serial No. 691,716. 3 Claims. (Cl. 62-99.)

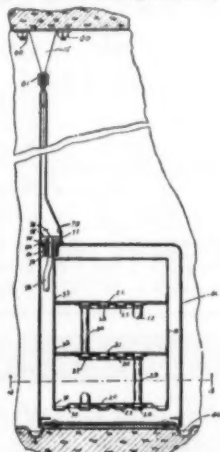
1. In refrigerating apparatus, a cabinet, a heat insulated refrigerating chamber within said cabinet and having a heat dome extending upwardly from the ceiling thereof, an evaporator in said cabinet and arranged in said dome, a heat insulated housing having an open front, means for removably securing said housing to the ceiling of the refrigerating chamber about the margin of said dome, and a removable freezing unit in heat transfer relation with said evaporator and arranged in said housing.

2,003,437. ABSORPTION REFRIGERATING APPARATUS. Edward Gruber, Cleveland, Ohio, assignor to Edmund E. Allyn, Shaker Heights, Ohio. Application Jan. 21, 1932. Serial No. 588,036. 7 Claims. (Cl. 62-120.5.)

1. In absorption refrigerating apparatus, a still-absorber, condenser and evaporator connected in operative cycle in the order mentioned, a pressure drain conduit having a liquid seal connection with the evaporator and communicating with the still-absorber, said drain conduit being enlarged intermediate its ends, and a bypass gas return connection leading from the gas space of the evaporator and provided with sealing means effective to prevent flow toward the evaporator and arranged to permit free flow of returning gas from the evaporator toward the still around the condenser.

2,003,492. REFRIGERATING APPARATUS. Donald H. Reeves, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corp., a corporation of Delaware. Application July 31, 1930. Serial No. 471,927. Renewed May 18, 1934. 6 Claims. (Cl. 62-126.)

4. In a cooling unit for refrigerating apparatus, the combination of a sheet metal freezing chamber, refrigerant passages within said freezing chamber, a box cooling member extending above the freezing chamber and separate therefrom, said cooling member having refrigerant



2,003,492

eral Motors Corp., a corporation of Delaware. Application July 31, 1930. Serial No. 471,927. Renewed May 18, 1934. 6 Claims. (Cl. 62-126.)

4. In a cooling unit for refrigerating apparatus, the combination of a sheet metal freezing chamber, refrigerant passages within said freezing chamber, a box cooling member extending above the freezing chamber and separate therefrom, said cooling member having refrigerant

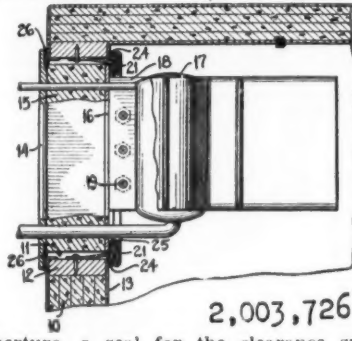
passages therein, means for connecting the refrigerant passages in the freezing chamber and the box cooling member, and means for insulating said connecting means from the freezing chamber.

2,003,532. BEVERAGE COOLING AND DISPENSING DEVICE. George A. Gloor, Dearborn, Mich. Application June 18, 1934. Serial No. 731,039. 8 Claims. (Cl. 225-40.)

1. A dispensing and cooling device comprising a housing including a liquid container and a refrigerant chamber, a heat conducting wall separating said container and chamber, a refrigerant holder arranged in said chamber, dispensing means for delivering liquid from said container, means normally maintaining said holder in spaced relation with respect to said heat conducting wall and means operable by said dispensing means for adjusting said holder relative to said heat conducting walls to regulate the transmission of heat from the liquid container to the refrigerant chamber.

2,003,726. REFRIGERATOR SEALING STRIP. Robert S. Taylor, Evansville, Ind., assignor to Electrolux Servel Corp., New York, N. Y., a corporation of Delaware. Application Nov. 14, 1930. Serial No. 495,553. 4 Claims. (Cl. 20-35.)

1. In a refrigerator cabinet including a wall having an aperture therein and a removable closure member within said



2,003,726

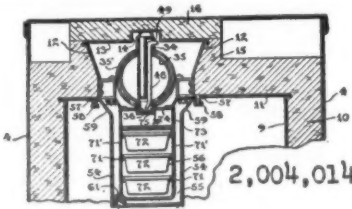
aperture, a seal for the clearance space between the wall and said closure member and comprising a strip resiliently mounted around the edge of said aperture and overlapping both the wall around said aperture and said closure member, a compressible gasket between said strip and the portion of the wall around said aperture overlapped by said strip, and a second compressible gasket between said strip and the edge of said closure member overlapped by said strip, said second gasket being secured to said strip.

2,003,947. SNAP ACTION THERMOSTAT. Edwin W. McKinley, Los Angeles, Calif. Application June 7, 1933. Serial No. 674,679. 3 Claims. (Cl. 236-48.)

1. A thermostat of the class described comprising a hollow gas body having a valve seat therein, a valve arranged to engage the seat, a stem secured to said valve, a member slidably mounted in said stem and normally seated therein with a portion of it projecting therebelow, a spring under compression disposed in said stem and urging said member seated, a tubular heat responsive element closed at its outer end secured to and communicating with the interior of the body at a point below the valve, valve actuating means including a bell crank lever disposed within said heat responsive element with the short arm engaging the closed end of the same and its long arm projecting into the body and extending underneath said valve for regulating the movement of the member in its stem after it has been engaged by the long arm of said lever for the purpose set forth.

2,004,014. REFRIGERATING APPARATUS. Alfred F. Sanford, Knoxville, Tenn. Application Aug. 5, 1931. Serial No. 555,277. 31 Claims. (Cl. 62-108.5.)

1. An ice making receptacle for domestic refrigerators comprising a plurality of

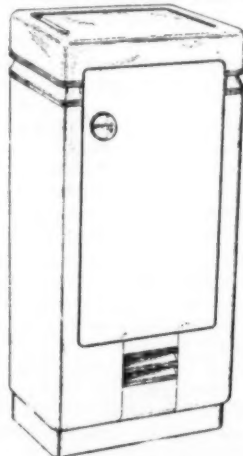


2,004,014

ice-containing cells arranged in rows extending longitudinally and transversely of the receptacle with a plurality of cells to each row and having walls spaced from the external sides of the cells to receive heating media for loosening the ice within the cells, and means confining the action of the heating media to less than all of the cells.

DESIGN

95,817. DESIGN FOR A REFRIGERATOR CABINET. Norman Bel Geddes, New York, and William I. Hamby, Great

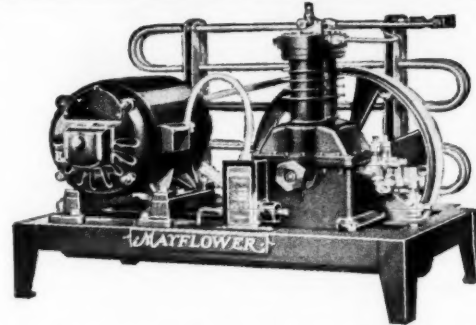


95,817

Neck, N. Y., assignors to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Feb. 23, 1935. Serial No. 55,590. Term of patent 14 years. The ornamental design for a refrigerator cabinet as shown.

BUYER'S GUIDE

MANUFACTURERS SPECIALIZING IN SERVICE TO THE REFRIGERATION INDUSTRY



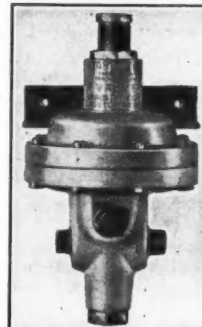
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The compressor of Proven Quality, Simple in Design, Rugged and Economical.

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In the Barostat Valve snap action is fundamental. It is either open or shut; no throttling action, no leakage. Its resilient diaphragm provides a definite differential, independently adjustable. Snap action, positive seal with compensating characteristics make Barostat the outstanding two temperature valve.

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Corrosion-proof! Guaranteed to be entirely permanent in ordinary atmospheres. Changes rapidly in temperature with outside temperatures, prevents accumulation of moisture, insures accurate maintenance of temperature settings. More beautiful, more practical. Write for bulletin KR.

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CONDENSING UNITS AND COMPRESSORS FOR HOUSEHOLD REFRIGERATION

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- * 1/6 to 10 H.P. UNITS



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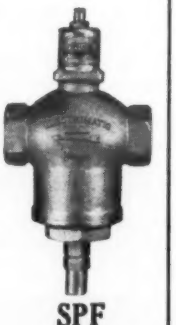
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ACTUATED BY INLET SUCTION PRESSURE

FOR AMMONIA FREON METHYL

MODULATING TYPE SEMI-STEEL LEAKPROOF BODY STAINLESS STEEL PARTS PACKLESS CONSTRUCTION CONTROLLED PRESSURE RANGE 0-20 Lbs. Ga. and 15 to 50 Lbs. Ga. SIZES: 3/4" to 2" Including Pipe Tap 1 1/2" to 6" Including Std. 4 Bolt Flanges

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SPF

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Manufactured in sizes from 2 to 8 trays direct expansion type. Ideal for the assembler of Household Refrigerators or for replacements.

Attractive Prices

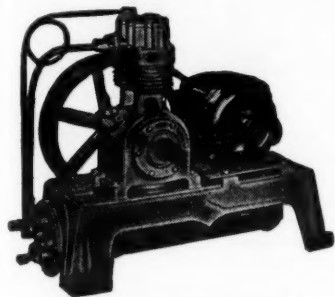
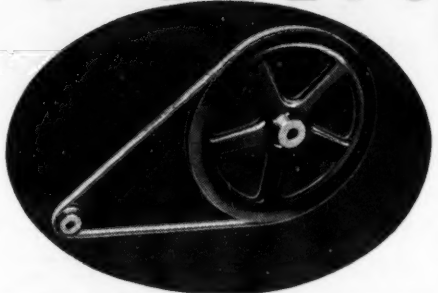
HAROLD L. SCHAEFER INC. 1620 Harmon Place Minneapolis, Minn.

DAYTON V-BELTS

There is a Dayton V-Belt made especially for all makes and types of refrigerators, washing machines and other appliances. A stock is available near you. Send for price list and name of your nearest distributor.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

The world's largest manufacturer of V-Belts



Style EW—Water Cooled
With Water Cooled Head

STARR FREEZE OUTSTANDING PERFORMANCE attested by satisfied users — EVERYWHERE!

Sturdy Condensing Units from 80 to 2868 Lbs. I.M.E., and all other commercial refrigeration equipment—Wall type cases with machinery—A beautiful household line of modern, conservative styles—Write for full data.

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Cable "Starr" Richmond, Indiana (factory) Since 1927
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Just Out New BIG CATALOG

Refrigerator service men and dealers send for our catalogue No. 110 showing lowest net prices on thousands of parts and accessories for all makes. Write us on your letter head today.

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	Electric Refrigeration News (weekly)	1935 Refrigeration Directory and Market Data Book (2 volumes)	Both Electric Refrigeration News and Refrigeration Directory
1 subscription	\$3.00	\$5.00	\$6.50
5 or more each	2.75	4.50	6.50
10 or more each	2.50	4.00	6.50
20 or more each	2.25	3.50	5.75
50 or more each	2.00	3.00	5.00
75 or more each	1.75	2.50	4.25
100 or more each	1.50	2.00	3.50
For All Other Countries (Except Canada)			
1 subscription	\$5.00	\$6.00	\$9.00
5 or more each	4.75	5.50	8.50
10 or more each	4.50	5.00	8.00
20 or more each	4.25	4.50	7.50
50 or more each	4.00	4.00	7.00
Canadian Rates (including tariff of 5 cents per copy on the News)			
1 subscription	\$6.00	\$6.00*	\$11.00*
5 or more each	5.75	5.50*	10.50*
10 or more each	5.50	5.00*	10.00*
20 or more each	5.25	4.50*	9.50*
50 or more each	5.00	4.00*	9.00*

*Canadian subscribers are required to pay a tariff and excise tax on the Directory and Market Data Book which amounts to \$2.59. These extra charges on books will be collected by the Canadian postoffice at the time of delivery.

Subscription Order

Business News Publishing Co.
5229 Cass Ave., Detroit, Mich.

Date.....

☐ Enter my subscription to Electric Refrigeration News for one year (52 issues).

☐ Send the 1935 Refrigeration Directory and Market Data Book (2 volumes).

☐ Enclosed find remittance. (See rates above.)

Name

Attention of In Care of

Street Address City and State

We sell the refrigerator and (Please indicate other products or principal line of business.) 6-19-35

QUESTIONS

Lubricating Oils

No. 2295 (Exporter, New York)—“We understand that you are the publishers of the American Refrigeration Directory, and that the same includes a list dealing with the lubrication of household refrigeration machines. We ship considerable quantities of lubricants to Australia, and clients of ours in that country have recently written us asking about certain oils suitable for household refrigerators. We are referred to your directory, and we shall be glad if you will let us know where we can find this directory in New York, and also what is the cost of same.”

Answer: We publish the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY which lists manufacturers for all types of refrigerating and air-conditioning equipment. Included in the directory is a list of companies making lubricating oils for use in household refrigeration systems.

Published in the June 12 issue of ELECTRIC REFRIGERATION NEWS were complete specifications covering 281 models of household electric refrigerators, these specifications indicating the lubricating charge necessary for various makes of compressors.

Water Coolers

No. 2296 (Dealer, Rhode Island)—“Kindly let us know, if possible, the name of the company that makes water coolers for factories and offices.”

Answer: Manufacturers of both bottle and pressure type water coolers for commercial installation are listed on pages 214 and 215 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

‘Blue Book’

No. 2297 (Dealer, Michigan)—“Where can we purchase a manual or reference book showing serial numbers of commercial condensing units and the year of manufacture? Something similar to an automobile ‘Blue Book.’”

Answer: We have no knowledge of such a book.

However, for the past three years we have published specifications of commercial condensing units, giving model numbers and all pertinent information. Copies of these specifications may be had at a cost of 10 cents.

Coin Meters

No. 2298 (Distributor, California)—“I would appreciate it if you would enclose a list of the manufacturers of coin meter devices.”

Answer: Manufacturers of coin meter devices are listed on page 253 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

Evaporators

No. 2299 (Manufacturer, Wisconsin)—“A few days ago we noticed an evaporator advertisement in the News. We believe the name was Stevens, in Minneapolis or St. Paul. Will you please send us the complete name and address of this manufacturing company so that we can contact them.”

Answer: We believe the company to which you refer is Harold L. Schaefer, Inc., 1620 Harmon Place, Minneapolis.

Refrigeration Data

No. 2300 (Manufacturer, Ohio)—“I had a request for information concerning the possibility of obtaining the following:

‘Specifications for electrically operated domestic refrigerators, second edition, September, 1933, with appendix. (Issued by the Association of Edison Illuminating Companies.)

‘Government Domestic Refrigeration Specifications for 1934 Purchases.’

“Knowing the vast amount of material you have on subjects pertaining to domestic refrigeration, I thought there might be a possibility of your having this information. If not, could you tell me where it can be purchased or borrowed?”

Answer: We have no record of either of these two items, but suggest writing to M. B. Woods at Edison Electric Institute, 420 Lexington Ave., New York City; and the War Department, Washington, D. C.

Commercial Specifications

No. 2301 (Distributor, Chicago)—“Your March 27 issue of ELECTRIC REFRIGERATION NEWS showed specifications of various makes of air-conditioning units. There is also another issue of this paper describing refrigerating units for air conditioning. We shall greatly appreciate it if you can send us three copies of each of these issues of ELECTRIC REFRIGERATION NEWS.”

Answer: Specifications of commercial refrigerating machines for all types of applications were published in the April 3 issue of the NEWS. Price 10 cents per copy.

U. S. Hermetic Parts

No. 2302 (Service Company, New York)—“Please tell us where we can obtain parts or change-over units for the U. S. Hermetic refrigerator.”

“We desire this information at once as we have a customer awaiting repairs.”

Answer: Write General Household Utilities Co. 2628 N. Crawford Ave., Chicago, Ill. This company absorbed the U. S. Radio & Television Co., which made the U. S. Hermetic unit.

Cold Storage Plants

No. 2303 (Iron and Steel Company, New York)—“We understand that you publish a directory of refrigerating and cold storage plants in the United States, or something of that kind.

“Will you be kind enough to give us whatever information you may have on this subject?”

Answer: We publish the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY which lists manufacturers of complete refrigeration and air-conditioning systems, and makers of parts, materials, supplies, and accessories used by the refrigeration and air-conditioning industries. The DIRECTORY does not contain a list of ice making and cold storage plants in the U. S.

Sales by States

No. 2304 (Electrical League, Rhode Island)—“I have had numerous inquiries as to the total results by states of refrigeration sales and to date have not been able to find out these figures for April, 1935.

“Will you please make a special effort to let me have these figures at an early date so that I may pass them on to our members, and I will be very glad to give credit to REFRIGERATION NEWS for this information.”

Answer: Sales by states for April as reported for 14 members of the Refrigeration Division of the National Electrical Manufacturers Association will be found on page 12 of the June 5 issue of ELECTRIC REFRIGERATION NEWS.

Imitation Foods

No. 2305 (Dealer, Iowa)—“Can you give us information as to where we can obtain the imitation foods that are used in displaying refrigerators? By this we mean vegetables, fruits, meats, etc.”

Answer: Manufacturers of artificial foods for display in electric refrigerators are listed on page 253 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

Insulating Material

No. 2306 (Exporter-Importer, New York)—“As subscribers for a number of years for your publication, ELECTRIC REFRIGERATION NEWS, we take the liberty of asking you whether you can give us information as to the best sources of supply, which have been commissioned by our foreign friends to ascertain, of the following articles used for refrigeration purposes.

“1. Tin foil sheets, plain, flat, and thin, which we understand are to be used in triplicate in insulating the air within the space between the inner and outer wall of the cabinet.

“2. Cork, in 2, 3, and 4-inch slabs for insulation purposes.

“3. Odorless hydrolene.

“4. Calcium for the purpose of keeping the moisture out between double glass fronts.

“We understand that this sometimes becomes clogged and we would ask you whether any new methods have been invented, or which is the easiest way to replace the old calcium which has become clogged and whether there is a certain kind of a small pump used for this purpose.

“5. The names of wholesale firms who deal in refrigeration spare parts.

“While we do not wish to burden you unnecessarily, we will certainly appreciate any information which you may be able to submit to us to assist us in a manner which will enable us to find the proper sources of supply of the above enumerated goods for our foreign friends who are desirous of placing orders for such articles.”

Answer: Foil insulation may be obtained from the Aluminum Co. of America, Gulf Bldg., Pittsburgh, Pa. and the Alfol Insulation Co., 1422 Chrysler Bldg., New York City. Hydrolene may be purchased from the Sun Oil Co., 1609 Walnut St., Philadelphia, Pa.

Manufacturers of cork insulation are listed on pages 260 and 261 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY. Manufacturers of dehydrators for use in display cases are listed on page 176 of the same volume. The DIRECTORY also lists a large number of firms dealing in replacement parts on page 355.

Ice Cream Cabinets

No. 2307 (Dealer, Connecticut)—“Kindly advise where we can buy ice cream cabinets for electric refrigeration.”

Answer: Manufacturers of electrically refrigerated ice cream cabinets are listed on page 200 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

CLASSIFIED

RATES: Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

WANTED: Sales Engineers for responsible positions with Frick Distributors in various cities; must be experienced in ammonia, methyl chloride and Freon refrigeration, also air conditioning. Send full particulars, with photograph, or call at Frick Company, Waynesboro, Pa.

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ATTENTION: Dealers and Service Men. Rebuilt Mayson expansion valves, \$1.00. Rebuilt American Radiator expansion valves, \$1.65. Ranco controls, all types, \$1.95. Frigidaire and Kelvinator dry and flooded coils, \$2.50 up. Bargains in Mullins Evaporators. Rebuilt domestic and commercial units, \$12.50 up; all sizes from 1/4 HP to 1 1/2 HP; thoroughly rebuilt, fully reconditioned. Evaporators all sizes and types, \$1.50 up. Federal Refrigerator Corp., 437 11th Ave., New York, N. Y.

ISOBUTANE: We offer purest and dryest isobutane for the most exacting scientific purposes; in your 80 lb. cylinders at \$0.75, in our 120 lb. cylinders, \$0.70, in small lots at \$1.00 per pound. The Standard Refrigeration Co. of Pittsburgh, 1148 Dohrman St., McKees Rocks, Pa.

FOR SALE—32 used Mills coin meter clocks at \$3.50 each for quick sale as we have discontinued refrigeration department. Address Bon Marche, Inc., Asheville, North Carolina.

FRANCHISE AVAILABLE

DISTRIBUTORS and Dealers wanted, to sell to the retail trade exclusively our trade-famous line of brand new and A-1 reconditioned refrigerators. Exclusive territory for domestic and export trade open. When you deal with us you are assured of a ready supply of refrigerators at greatly reduced prices. We carry the largest stock of nationally known makes, in all sizes. Every new or reconditioned refrigerator that leaves our block front plant is in A-1 condition. Every one bears our absolute guarantee which you can pass on to your customers in perfect confidence. Write for our booklet containing specifications and prices for domestic and export trade. We also seek Resident Buyers to sell us large quantities of new and used refrigerators and parts. Highest prices paid. Exclusive territory rights gladly granted. For your protection, always look for our label, “Remanufactured by Federal Refrigerator Corp., 453 11th Ave., New York.”

REPAIRS

HALELECTRIC thermostat repair service. B & B, G.E., Cutler-Hammer, Penn. Ranco, Tag., etc. Expansion valves repaired. Gas service, Ethyl, Methyl, Isobutane, Sulphur. Your cylinder or ours. Competitive prices. Halelectric Laboratory, 1793 Lakeview Road, Cleveland, Ohio.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. Van Deventer (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

SERVICE

ATTENTION: Refrigeration Service Men. Service sheets available for opening and servicing the Majestic hermetically sealed refrigerator unit. Price, \$2.00. Interstate Machine Works, 111 S. 11th St., Boise, Idaho.

POSITION WANTED

YOUNG MAN, thoroughly grounded in fundamentals of refrigeration through college and factory training, wishes to make connections with factory branch or first class service shop in Detroit or vicinity to continue practice and study in installation and service. Box 712, Electric Refrigeration News.

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We are the leading school in the refrigeration field because we zealously maintain the highest possible standard of training for men desiring to enter the industry and those already a part of it. Our object is to render service to all in a way that will make the industry glad we are associated with it.

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